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ABSTRACT

This guide is designed to assist state and local consortia with their evaluation of Tech Prep education programs and with their reporting of Tech Prep program and student outcomes data to meet the accountability requirements of the Perkins Act of 1998. Intended for Tech Prep stakeholders in secondary schools and two-year colleges, the guide also promotes current planning and future development of Tech Prep education programs. Section I provides an overview about evaluating Tech Prep education programs; a description of the compliance requirements set by federal legislation; definitions of a Tech Prep student, concentrator, and completer; model for Tech Prep evaluation; and a discussion of the use of internal and external evaluators. Section II reports on the seven essential program elements of Tech Prep and provides state and local Tech Prep evaluation examples. Section III describes Tech Prep performance measures for reporting the Perkins four core indicators, and it provides performance measure examples. Section IV provides information to assist with collecting, analyzing, and presenting Tech Prep program and student outcomes data. Section V links the Tech Prep evaluation process to program improvement. Appendixes, amounting to over two-thirds of the guide, include glossary; 40 references; and reproductions of numerous survey templates and evaluation examples described in Section II. (YLB)

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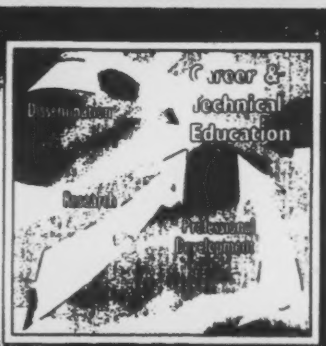
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A Practitioner's Guide To Evaluation

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Measuring Tech Prep Excellence: A Practitioner's Guide to Evaluation

Sheila K. Ruhland, Ph.D
Project Director
University of Minnesota

Delia M. Timms
Graduate Research Assistant
University of Minnesota

**National Research Center for Career and Technical Education
University of Minnesota
1954 Buford Avenue #R460
St. Paul, Minnesota 55108-6197**

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Sheila K. Ruhland, Project Director

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Abstract

Tech Prep education programs play a vital role in the education of American youth. During the past decade, with funding from Perkins legislation, Tech Prep consortia have consolidated and developed programs for students. The Carl D. Perkins Vocational and Technical Education Act of 1998 requires each state to identify performance levels relevant to career and technical education. Seven essential program elements and four core indicators provide the foundation to evaluate Tech Prep education programs. The purpose of this guide is to assist those responsible for Tech Prep evaluation to report program and student outcomes data, and to integrate evaluation results with future Tech Prep education program planning efforts.

Introduction

This guide has been developed to assist state and local consortia with their evaluation of Tech Prep education programs and with their reporting of Tech Prep program and student outcomes data to meet the accountability requirements of the Perkins Act of 1998. The guide also promotes current planning and future development of Tech Prep education programs. Practical evaluation examples have been provided to aid state and local evaluators responsible for the planning, data collection, and analysis of Tech Prep education programs. This guide is designed for Tech Prep stakeholders in secondary schools and two-year colleges. Stakeholders include teachers, administrators, counselors, state and local Tech Prep coordinators, and other interested parties.

Due to the variability of state and local Tech Prep evaluation requirements, consortia have considerable flexibility in designing an evaluation system to meet their individual needs. Therefore, no single evaluation method is prescribed; state and local consortia may select from a variety of suggestions and evaluation methods. Any of the methods presented in this guide can be modified to meet the needs of state or local consortia.

The guide is divided into five sections. Section I provides an overview about evaluating Tech Prep education programs; a description of the compliance requirements set by federal legislation; definitions of a Tech Prep student, concentrator, and completer; models for Tech Prep evaluation; and a discussion of the use of internal and external evaluators. Section II reports on the Tech Prep seven essential program elements and provides state and local Tech Prep evaluation examples. Section III describes Tech Prep performance measures for reporting the Perkins four core indicators, and it provides performance measure examples. Section IV provides information to assist with collecting, analyzing, and presenting Tech Prep program and student outcomes data. Section V links the Tech Prep evaluation process to program improvement. The guide also includes a glossary, references, and appendices. Numerous survey templates and evaluation examples are described in Section II and are reproduced in the appendices. In addition, Web sites and contact information for additional resources and technical assistance are provided.

The guide has been developed following several on-site interviews with state and local Tech Prep coordinators and telephone interviews with local Tech Prep coordinators. Tech Prep Web sites were reviewed to obtain examples of Tech Prep surveys and definitions of Tech Prep student, concentrator, and completer.

SECTION I: EVALUATING TECH PREP EDUCATION PROGRAMS

During the past decade, Tech Prep has developed in scope and content to meet the needs of students in secondary schools and two-year colleges. Nationally, between 1991 and 1997, more than 1,000 Tech Prep consortia were created, covering approximately 70% of secondary school districts, and serving about 90% of all American high school students (Hershey, Silverberg, Owens, & Hulsey, 1998). A Tech Prep consortium is defined as a group of participants from secondary schools and two-year colleges, higher education institutions, employers, and public and/or private providers in a community responsible for guiding the planning, implementation, and monitoring of Tech Prep.

The collection, analysis, and use of Tech Prep data at the local, state, and national levels has been minimal. Telephone interviews with state and local Tech Prep coordinators indicated that time, resources, and the turnover of local Tech Prep coordinators are factors that impact their efforts to collect and report Tech Prep data on an annual basis. While recent evaluations of Tech Prep education programs show many promising trends and challenges, a study conducted by Bragg (1997a) found:

> Of nearly 50% of all local Tech Prep consortia in the United States, 40% reported they had not even begun to implement formal evaluations of their Tech Prep programs. Another 30% indicated their consortia were in the planning stage of evaluation, showing only a minority of Tech Prep consortia were actively implementing formal evaluations, and most of these were very preliminary. (p. 7)

Research indicates that although program implementation has been widespread, the reporting of student outcomes is unclear or limited (Bragg, Puckett, Reger, Thomas, Ortman, & Dornsife, 1997b; Silverberg, Hulsey, & Hershey, 1997). A four-year longitudinal study began in January 1998 to better understand the relationship between Tech Prep implementation and student outcomes (Bragg, 2001). Data collected assessed Tech Prep initiatives and how they influenced students' educational experiences and outcomes.

Most consortia report plans to develop comprehensive student databases, but thus far they have not implemented them (Silverberg, et al., 1997). Research conducted by Brown, Pucel, Twohig, Semler, and Kuchinke (1998) identified two major problems related to Tech Prep evaluation efforts: (a) a lack of specific definitions or criteria to identify a Tech Prep student, and (b) a lack of consistent processes to identify a Tech Prep student. A national Tech Prep study conducted by Ruhland, Custer, and Stewart (1995) concluded that Tech Prep student identification is a critical factor in implementing systemic change in Tech Prep education programs. Without a Tech Prep student definition, consortia are unable to identify the data required to report and evaluate Tech Prep program and student outcomes. This leads to the inability to evaluate and report Tech Prep education program results within secondary schools and two-year colleges.

Compliance with Federal Legislation

The evaluation of Tech Prep education programs offers many benefits including the compliance with the rules and regulations of the federal legislation. Two key benefits are improving programs and providing accountability (Boulmetis & Dutwin, 2000; Connell & Mason, 1995; Logan, 1999).

Perkins Program Improvement Requirements

Section 204 of the Carl D. Perkins Vocational and Technical Education Act 1998 (American Vocational Association, 1998, p. 135) outlines the content for Tech Prep education programs. Each consortium receiving Perkins funding is required to submit as part of its state plan a five-year plan for the development and implementation of Tech Prep education programs. Evaluations of Tech Prep for program improvement purposes will enable state and local consortia to identify both strengths and areas for improvement. Program improvement efforts can be targeted for short-term (i.e., less than one year) or long-term (i.e., more than a year) planning and implementation.

To assist with program improvement efforts, Tech Prep evaluators should collect program outcomes data. State and local consortia should include program outcomes data for each of the Tech Prep seven essential program elements: (a) articulation agreement, (b) appropriate curriculum design, (c) curriculum development, (d) in-service teacher training, (e) counselor training, (f) equal access for special populations, and (g) preparatory services. Processes to report program outcomes data for the seven essential program elements are described in greater detail in Section II.

Perkins Accountability Requirements

Federal legislation requires evaluation of Tech Prep education programs. Under section 113 of the Carl D. Perkins Vocational and Technical Education Act of 1998, the law states that each eligible agency shall identify its state plan for core indicators of performance for vocational and technical education that include, at a minimum, measures for each of the following:

> (i) Student attainment of challenging State established academic, and vocational and technical skill proficiencies.
>
> (ii) Student attainment of a secondary school diploma or its recognized equivalent, a proficiency credential in conjunction with a secondary school diploma, or a postsecondary degree or credential.
>
> (iii) Placement in, retention in, and completion of, postsecondary education or advanced training, placement in military service, or placement or retention in employment.

> (iv) Student participation in and completion of vocational and technical education programs that lead to nontraditional training and employment. (American Vocational Association, 1998, p. 98)

For each of the four core indicators, states must establish valid and reliable performance measures that specify levels of performance which can at a minimum:

> (I) be expressed in a percentage or numerical form, so as to be objective, quantifiable, and measurable, and
>
> (II) require the State to continually make progress toward improving the performance of vocational and technical education students. (American Vocational Association, 1998, p. 99)

For the purposes of accountability, Tech Prep evaluators need to collect student outcomes data. Student outcomes are defined as changes that occur in individuals as a result of participation in an educational experience (Bragg, 1992). Student outcomes should be assessed for each of the Perkins III core indicators: (a) student attainment, (b) credential attainment, (c) placement and retention, and (d) participation in and completion of non-traditional programs. Examples of student outcomes that have been evaluated in various states include (a) student perceptions of the Tech Prep program; (b) placement in a program related to career training; (c) retention in employment related to career training; (d) an increase in academic skills; (e) a decrease in remediation courses; (f) attainment of an associate degree, baccalaureate degree, or postsecondary certificate or credential; (g) transition to a baccalaureate program in a career field; (h) enrollment in advanced skill courses; (i) an increase in graduates obtaining high-wage jobs; and (j) a decrease in unemployment wages paid to program participants. The core indicators along with Tech Prep performance measures will be discussed in Section III.

Core Indicator Framework

The Office of Vocational and Adult Education (OVAE, 2000a) provides a framework to ensure that state performance measures are sufficiently rigorous. For a copy of the core indicator framework, access the Web site at http://www.ed.gov/offices/OVAE/tahome.html. Then locate the subject column and the title *Accountability Systems Development, January 2000 version of the Core Indicator Framework* (FY2000-3).

The core indicator framework identifies the purposes and construction of each core indicator and possible approaches to collecting data. Since 1998, eight states have been working with OVAE to test the use of the core indicators for secondary education (OVAE, 2000b): Florida, Illinois, Indiana, Missouri, New Jersey, Ohio, Texas, and Virginia. Since 2000, 10 states have been working with OVAE to test the use of postsecondary core indicators (OVAE, 2000c): California, Illinois, Minnesota, Missouri, New Jersey, North Carolina, Ohio, Texas, Utah, and Wisconsin. Findings from the secondary and postsecondary pilot projects suggest that most states can provide data for the Perkins III core indicators. However, the states report major differences in the ways in which they define student populations and collect data.

It is important to note that the core indicator framework provides a guideline for all career and technical education programs. Because Tech Prep is a subset of career and technical education programs, not all of the core indicators may apply. Tech Prep evaluators will need to select the core indicators and performance measures that are relevant to their Tech Prep education program and align them with any pertinent state Tech Prep efforts. The core indicators of performance will require states to report Tech Prep data for secondary and postsecondary students.

A template for completing each core indicator for the four key areas (goals, performance measures, measurement approaches, and quality criteria) is provided in Appendix A. This framework provides a foundation for reporting specific Tech Prep outcomes for Perkins III accountability requirements.

Performance Measures and Standards Example

Nebraska is one state that has developed a process to gather Tech Prep education program data related to Perkins performance measures. In Nebraska, data collection begins at the secondary level with those students entering and remaining in a sequence of courses identified as a Tech Prep education program by the consortium articulation agreements. The performance measures and standards are identified for learning outcomes and placement outcomes (see Appendix B). Currently, state personnel are reviewing the list of Nebraska's measures and standards to ensure that they specifically address the Perkins core indicators. Nebraska's measures and standards may provide a starting point for state and local Tech Prep consortia in identifying performance measures and standards in response to Perkins accountability requirements.

Definition of a Tech Prep Student, Concentrator, and Completer

Prior to beginning the Tech Prep evaluation process, states need to define a Tech Prep student, Tech Prep concentrator, and Tech Prep completer at the secondary and postsecondary levels. A state definition will provide consistency and commonality when reporting Tech Prep data. The task of defining a Tech Prep student has not been easy, and most states continue to struggle with developing a definition. Without state definitions, it is difficult to obtain consistent data related to program and student outcomes.

The National Association of Tech Prep Leadership (NATPL) developed possible definitions for Tech Prep secondary and postsecondary students by surveying state Tech Prep coordinators. The Executive Committee and Research Committee of NATPL (C. Jurgens, personal communication, November 14, 2000) provide the following definitions.

A Tech Prep secondary student has indicated a Tech Prep career pathway and is enrolled in a Tech Prep course of study that:

- includes a technical component,
- consists of a minimum of two years secondary and two years of postsecondary study,

- is carried out under a written articulation agreement,
- may allow the student to earn postsecondary credit while in secondary school, and
- leads to a specific postsecondary two-year certificate, degree, technical diploma, apprenticeship, or baccalaureate degree.

A Tech Prep postsecondary student is enrolled in a two-year certificate, degree, technical diploma, or apprenticeship program and has participated in a secondary Tech Prep course of study that:

- included a technical component,
- consisted of a minimum of two years at the secondary level,
- was carried out under a written articulation agreement, and
- may have allowed the student to transfer in postsecondary credit earned at the secondary school.

To assist with the reporting of the Perkins core indicators, definitions for a Tech Prep concentrator and Tech Prep completer need to be determined. OVAE (2000a) defines a vocational concentrator as a "student who enrolled in at least one vocational-technical education course" (p. 10). OVAE defines a vocational completer as a:

> Student who attained the academic and technical knowledge/skills/proficiencies within a program/sequence of courses or instructional units that provides an individual with the academic and technical knowledge/skills/proficiencies to prepare the individual for employment and/or further/advanced education. (p. 10)

NATPL defines a Tech Prep completer as a "student who has participated in both the secondary and postsecondary portions of the recognized education plan and has received an appropriate postsecondary two-year certificate, degree, technical diploma, or apprenticeship license" (C. Jurgens, personal communication, November 12, 2000). The NATPL and OVAE definitions can serve as a starting point to define a Tech Prep concentrator and Tech Prep completer. Definitions developed by several states for a Tech Prep student, Tech Prep concentrator, and Tech Prep completer are provided in Appendix C. These definitions were obtained from state Tech Prep coordinators and Tech Prep Web sites.

Models for Tech Prep Program Evaluation

"An evaluation model not only provides the overall framework for evaluation but also gives shape to the research questions, organizes and focuses the evaluation, and informs the process of inquiry" (Conrad & Wilson, 1985, p. 19).

Choosing an Evaluation Model

There are several evaluation models (Worthen, Sanders, & Fitzpatrick, 1997) that could guide Tech Prep program evaluation. The objectives-oriented model (Worthen, et al., 1997) determines the extent to which objectives are being achieved. This model has measurable objectives and uses instruments to gather data. Data reveal discrepancies between objectives and performance. The management-oriented model (Worthen, et al., 1997) assists with decision-making. This model evaluates all stages of program development and is often used for accountability. The participant-oriented model (Worthen, et al., 1997) responds to an audience's requirement for information. This model focuses on description and judgment, with emphasis on understanding the information collected. Scriven's formative and summative evaluation model (Borg & Gall, 1989) is also used to evaluate education programs. In formative evaluation, decisions are made as to where and what improvements in an ongoing program are needed. Local Tech Prep consortia that periodically review their goals for each of the Tech Prep essential program elements are involved with formative evaluation. Recommendations to revise any goals prior to the end of the current year may be based upon improvements needed that were not initially identified as Tech Prep program goals. Summative evaluation determines the overall effectiveness of a fully developed program. Local Tech Prep consortia that complete an end-of-the year report are involved in a summative evaluation. This report often requires each local consortium to assess the goals and outcomes achieved. At the state level, the evaluation report may or may not be used to determine future funding for each local Tech Prep consortium. Formative evaluations may involve a decision to continue, expand, or drop the program.

Management-oriented Evaluation: A Four-step Approach

For the purpose of Tech Prep evaluation, the management-oriented evaluation model is the most useful. The rationale for using the management-oriented model is that "evaluative information is an essential part of good decision making and that the evaluator can be most effective by serving administrators, policy makers, boards, practitioners, and others who need good evaluative information" (Worthen, et al., 1997, p. 97). The management-oriented evaluation model provides information that is useful for making decisions about the reallocation of funds.

In a management-oriented approach, Tech Prep can be evaluated following a four-step approach to planning and conducing an effective evaluation (Dutton, Hammons, Hudis, & Owens, 1994; Fleishman, 1995; Levesque, Bradby, Rossi, & Teitelbaum, 1998). An overview of the four-step approach is provided in Table 1.

Table 1

A Four-step Approach to Planning and Conducting an Evaluation

STEP 1: Identify the objectives of the evaluation.	▪ identify what needs to be measured (the specific objective) ▪ define the participants
STEP 2: Choose the evaluation method.	▪ decide how to measure (measurement approach and data sources) ▪ choose what these data will be measured against
STEP 3: Collect the data.	▪ decide who will collect the data ▪ determine how the data will be recorded ▪ specify when the data will be collected (frequency and timeline) ▪ collect both baseline data and ongoing data
STEP 4: Analyze and communicate the results.	▪ categorize and code data ▪ find meaning and interpret the data ▪ look for trends and underlying causes ▪ summarize the information into key points ▪ make recommendations and plan for the future

Step 1: Identify the objectives of the evaluation. The first step of conducting the Tech Prep evaluation is to identify what needs to be measured (the specific objectives). This is an important step and should begin with specific and clearly defined objectives. After identifying what to measure, the participants need to be defined. As this document suggests, participants are best defined as Tech Prep students, concentrators, and completers at the secondary school and two-year college level. The use of a state definition, if available, will ensure a greater degree of consistency among data being reported by consortia within the state.

Step 2: Choose the evaluation method. To measure achievement of the objectives, the next step is to decide on an evaluation method (e.g., tests, surveys, interviews) to obtain data. Evaluators need to select an evaluation method that is realistic and achievable, given the existing resource and time constraints. According to Judy Larson, Tech Prep Coordinator, St. Louis Community College, Missouri (personal communication, September 19, 2000):

> Make evaluation simple but thorough enough that it will not be looked at as a threat to what we are doing, but as a means to make what we are doing better. When people hear the word evaluation, they are turned off because they think it

> will be used against them. If evaluation is done properly, it is a means of strengthening our endeavors and making us better at what we are doing.

Once the method is selected, decisions need to be made about the specific data to be collected–for example, remediation rates, numbers of articulated credits used at the postsecondary level, and numbers of completers of associate degree programs. Existing data sources and those that could be developed should be explored. The method selected should ensure that data are valid, reliable, cost-effective, systems-focused, and useful to key stakeholders. To demonstrate progress or impact, the data need to be compared to a baseline (starting point), benchmark, standard (local, state, or nationally defined), cohort, or the same group/individual over time.

Step 3: Collect the data. Based on the evaluation method and potential data sources, the third step is to collect the data. Will data be collected by a department, a secondary school, a two-year college, a consortium, or an outside agency? What is the role of one's institutional research office? Collaborating with others in one's consortium helps to avoid duplication of effort. A timeline specifying dates for the beginning and completion of the data collection process is an important element of the data collection step.

Step 4: Analyze and communicate the results. Once the data have been collected, the fourth step is to categorize and code the data. Analysis of the data includes looking for trends and underlying causes. Are there any areas that show strong results or particularly poor results? Key findings should be identified, and recommendations should be presented in a final report which is communicated to internal and external stakeholders.

To further assist with implementing the four steps to planning and conducting an evaluation, OVAE (2000a) has identified five general quality criteria for performance measurement as part of the Perkins core indicator framework. "These general quality criteria are intended to insure that states have chosen a measurement approach that has sufficient rigor and comparability" (p. 8). Evaluators should consider these criteria when implementing the four steps to planning and conducting an evaluation. The five criteria are:

1. Validity–the degree to which the performance measurement approach directly and fully measures the student outcomes at an appropriate time interval. Performance measurement approaches produce valid data when they use assessment and other data collection instruments that have strong content validity; that is, they directly measure what they are supposed to measure. Indirect or proxy measures are valid to the extent that they are associated with or highly predictive of student outcomes. In addition, performance measures are valid when measurement is conducted at the appropriate times, that is, concurrent with services or after services, so that reasonable inferences can be made about the effectiveness of career and technical education.

2. Reliability–the degree to which performance measurement is conducted in a consistent manner using standardized or consistent data collection instruments (e.g., student record forms, surveys, assessment instruments) and effective management information systems to insure data quality. Performance measures are reliable when repeated measurements yield similar results and when measurement is conducted consistently across student groups and entities.

3. Cost-effectiveness–the degree to which the performance measurement uses measurement approaches and data collection systems that provide the highest-quality data at the lowest possible costs. Performance measurement is most cost-effective when states make the fullest possible use of existing data systems and when they share data systems with other programs.

4. System focused–the degree to which states develop common or consistent measurement approaches and data collection systems with other programs within education and workforce development systems.

5. Management utility–the degree to which measurement approaches are useful in managing continuous improvement at the state and local levels. Management utility is highest when performance measurement approaches are easy to understand and use and provide timely data to users to facilitate continuous improvement.

Use of Internal and External Evaluators

Formal evaluation has traditionally been seen as the responsibility of a select few researchers and academics. Increasingly, evaluators are recognizing that practitioners often bring the most meaningful and useful information to the evaluation process and the analysis of data (Hitchcock & Hughes, 1995). Key stakeholders also should be involved in the evaluation process from the beginning.

State and local consortia will need to decide whether internal or external evaluators will conduct the evaluation. Internal evaluators are employees of the organization that design and conduct the program evaluation. If a local consortium forms a Tech Prep evaluation committee, it may assist with determining the Tech Prep education program needs and identifying data collection methods for state and local reports. Specific goals of a Tech Prep evaluation committee might include (a) development of an evaluation design for program effectiveness, (b) development of data collection instruments and processes, (c) development of a timeline, (d) collection and analysis of data, (e) preparation of an evaluation report communicating findings to local and state personnel, and (f) reevaluation of the program design and recommendation for improvements or changes. Most importantly, the committee can review evaluation data to assist in future program planning.

Carole Swinehart, Tech Prep Administrative Resource Teacher, Hillsborough Tech Prep Consortium, Florida (personal communication, June 20, 2000) stated:

> As a result of state leadership, we developed our evaluation committee; we worked on the evaluation plan . . . and what we needed to improve. The evaluation plan is like the marketing plan . . . shows progress . . .serves as a baseline, or it helps as a foundation to start improving our program.

External evaluators provide professional advice but are not permanent employees of the organization (Worthen, et al., 1997). External evaluators are often third-party evaluators, independent evaluators, consultants, university research personnel, or state agencies. There are distinct differences between internal and external evaluators. Table 2 summarizes some of the advantages and disadvantages of using internal or external evaluators. States that have used internal or external evaluators to assist with their Tech Prep evaluations are listed in parentheses. State and local consortia will need to decide which evaluators will assist with evaluation efforts.

Table 2

Advantages and Disadvantages of Internal and External Evaluators

Evaluators	Advantages	Disadvantages
Internal Evaluators (CA, FL, MN, NC, OR)	• Possess first-hand knowledge of the education industry. • Understand the culture of the school or consortium. • Have strong working relationships with practitioners and stakeholders, which may facilitate the evaluation process. • Are often able to conduct long-term projects due to constant on-site access.	• May have limited knowledge and/or experience of evaluation and broad systemic issues. • May be questioned as to their credibility due to conflict of interest. • May have limited time and availability for evaluation activities because of other responsibilities in their institution.
External Evaluators (FL, IL, OH, OR, TX)	• Bring objectivity and a fresh perspective to the evaluation. • Possess experience or skills that internal evaluators may lack. • Can offer the time and stay focused on the evaluation. • Can cross-pollinate approaches used by similar clients. • May elicit franker comments from individuals. • Possess in-depth knowledge of standards across the state.	• Need to spend time developing trust and credibility within the organization. • May not understand the culture of the school or consortium. • Must rely on the cooperation and active participation of internal employees. • Can be expensive; therefore input may be limited by funding.

Summary

Section I provided an overview for evaluating Tech Prep education programs and compliance with federal legislation. Tech Prep education programs are evaluated to improve programs and provide accountability. It is important to reiterate that when evaluating Tech Prep education programs, both program and student outcomes data should be collected. Several evaluation models exist to guide the Tech Prep evaluation process. A four-step approach to planning and conducing an evaluation was presented in Section I. Section II will report on the Tech Prep seven essential program elements and present state and local evaluation models to assist with Tech Prep evaluation efforts.

SECTION II: REPORTING ON THE TECH PREP SEVEN ESSENTIAL PROGRAM ELEMENTS

Each consortium receiving Perkins funding is required to submit as part of its state plan a five-year plan for the development and implementation of Tech Prep education programs. These plans are expected to report on the seven essential program elements required of Tech Prep education programs. The Perkins seven essential program elements include: (a) articulation agreement, (b) appropriate curriculum design, (c) curriculum development, (d) in-service teacher training, (e) counselor training, (f) equal access for special populations, and (g) preparatory services.

In this section, the essential elements are described, and an overview of the 1998 Perkins Act requirements and specific evaluation questions to collect program and student outcomes data are provided for each program element.

Articulation Agreement

The Perkins Act (Section 204) requires that each Tech Prep education program shall "be carried out under an articulation agreement between the participants in the consortium" (American Vocational Association, 1998, p. 136). Each consortium should sign agreements that commit to articulated programs with "a non-duplicative sequence of classes and other experiences providing progressive achievement leading to competencies in a Tech Prep education program" (Brustein, 1993, p. 14). Career pathways have been developed to ensure that students have opportunities to explore careers and to connect career and technical education[1] and academic instruction. These pathways provide students with a career and technical education program of study extending from secondary schools to two-year colleges[2] and allow students to earn college credit while completing work in high school.

Oregon is an example of a state that has developed career pathway strategies that include (a) arts and communications continuing to a two-year college offering degrees in journalism and visual communications; (b) business and management offering degrees in accounting, business technology, computer science, and hospitality and tourism management; (c) health services with degree programs in nursing assistant, associate degree nursing, and practical nursing; (d) human services with degree programs in early childhood education, education, fire protection technology, and human services; (e) industrial and engineering with degrees in drafting technology, computer-aided design, electronics technologies, and manufacturing engineering technologies; and (f) natural resource with degrees in agriculture and forestry (Mid-Willamette Education Consortium, 1999).

Some states have developed one articulation agreement for all schools in the consortium (i.e., all pertinent courses in both secondary and postsecondary institutions), and others have developed individual articulation agreements for each course within the consortium. The state of

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[1] During the past decade, there has been a national trend to use the term *career and technical education* for *vocational and technical education*. This guide uses *career and technical education (CTE)*.

[2] For the purpose of this guide, two-year colleges include technical and community colleges.

Minnesota requires that an articulation agreement for two-year colleges possess a philosophical framework (allowing each college to frame its institutional agreement to reflect consistency with its educational philosophy), have a commitment to develop a 2 + 2 Tech Prep education program, provide standards for advanced standing agreements, and have the signatures of executive officers of the participating institutions (M. Messimer, personal communication, July 20, 2000). Further, Minnesota has developed a review process to assist local consortia with their articulation agreements. This process requires that articulation agreements for advanced standing be reviewed in a timely fashion to assure continued commitment and course integrity. The timeline identified allows consortia with a large number of articulation agreements to adjust the review process when there is a change in faculty or administration at either the secondary or postsecondary level.

Examples of articulation agreements are in Appendix D. When assessing articulation agreements, evaluators should answer the following questions:

- What process is used for developing articulation agreements?
- Was the consortium articulation agreement developed with stakeholder input?
- What types of written articulation agreements are in place between secondary schools and two- and four-year institutions?
- What evidence exists that articulation agreements reflect a minimum of a 2 + 2 program of study for each Tech Prep career pathway?
- What evidence exists that articulation agreements are being used?
- What is the process to evaluate articulation agreements?

Appropriate Curriculum Design

Section 204 of the Perkins Act (American Vocational Association, 1998) requires that each Tech Prep education program shall:

> Consist of at least 2 years of secondary school preceding graduation and 2 years or more of higher education, or an apprenticeship program of at least 2 years following secondary instruction, with a common core of required proficiency in mathematics, science, reading, writing, communications, and technologies designed to lead to an associate's degree or a postsecondary certificate in a specific career field. (p. 136)

When assessing curriculum, design evaluators should ask the following questions:

- How is the Tech Prep model structured (e.g., 2 + 2, 2 + 2+ 2, or 4 + 2)?

- What is the percent increase in the number of students completing a two-year college program within three years of initial entry compared to the previous year's baseline data?

- What is the percent increase in the number of high school students completing courses that earn advanced standing credit at a two-year college compared to the previous year's baseline data?

- What is the percent increase in overall student academic achievement as a result of Tech Prep education programs?

- How is the curriculum designed to ensure a common core of required proficiencies in mathematics, science, reading, writing, communications, and technologies that leads to an associate's degree or two-year certificate in a specific career field?

- What evidence indicates an increase in the number of students who participate in academic and career and technical education integrated curriculum?

- What is the process to evaluate curriculum design?

Curriculum Development

Section 204 of the Perkins Act (American Vocational Association, 1998) requires that each Tech Prep education program include the development of Tech Prep curricula for both secondary and postsecondary participants in the consortium that:

> (A) meet academic standards developed by the state;
>
> (B) link secondary schools and two-year postsecondary institutions, and if possible and practicable, four-year institutions of higher education through nonduplicative sequences of courses in career fields, including the investigation of opportunities for Tech Prep secondary students to enroll concurrently in secondary and postsecondary coursework;
>
> (C) use, if appropriate and available, work-based or work site learning in conjunction with business and all aspects of an industry; and
>
> (D) use educational technology and distance learning, as appropriate, to involve all the consortium partners more fully in the development and operation of programs. (p. 136)

Questions to ask when assessing Tech Prep curriculum development include:

- What staff development opportunities are provided for teachers to learn about and use curriculum integration?

- Is there a decrease in the number of students in remedial courses who enroll in a two-year college program the semester following high school graduation compared to the previous year's baseline data?

- Is there an increase in the percentage of students enrolled in work-based learning experiences linked to industry skills standards and state-issued skill certificates compared to the previous year's baseline data?

- How are secondary faculty and two- and four-year college faculty working together to plan, develop, and implement a Tech Prep education program of study?

- Is there a curriculum development team? If so, who are the team members?

- How are career exploration and planning courses made available to students?

In-service Teacher Training

Section 204 of the Perkins Act (American Vocational Association, 1998) requires that each Tech Prep education program include in-service training for teachers that:

> (A) is designed to train vocational and technical teachers to effectively implement Tech Prep programs;
>
> (B) provides for joint training for teachers in the Tech Prep consortium;
>
> (C) is designed to ensure that teachers and administrators stay current with the needs, expectations, and methods of business and all aspects of an industry;
>
> (D) focuses on training postsecondary education faculty in the use of contextual and applied curricula and instruction; and
>
> (E) provides training in the use and application of technology. (p. 136)

Questions to ask when assessing in-service teacher training include:

- What types of staff development activities are provided?

- What have teachers learned as a result of participating in staff development activities?

- How do new or substantially revised academic courses emphasize contextual learning?

- Which secondary academic and career and technical teachers have received staff development to reinforce mathematics, science, and communications competencies as an integral part of career and technical education?

- Which two-year college academic and career and technical teachers have received staff development activities?

- What internship opportunities are provided to expose teachers and administrators to industry work sites and labor force expectations?

- Have consortium stakeholders attended and participated in local, state, and national conferences?

- What is the process to evaluate in-service teacher training activities?

Counselor Training

Section 204 of the Perkins Act (American Vocational Association, 1998) requires that Tech Prep education programs include training for counselors designed to enable them to more effectively:

> (A) provide information to students regarding Tech Prep education programs;
>
> (B) support student progress in completing Tech Prep programs;
>
> (C) provide information on related employment opportunities;
>
> (D) ensure that such students are placed in appropriate employment; and
>
> (E) stay current with the needs, expectations, and methods of business and all aspects of an industry. (p.137)

Questions to ask when assessing counselor training include:

- What staff development activities have been provided to counselors to assist with the counseling and advising of Tech Prep students in secondary schools and two-year colleges?

- Do students in grades 9 to 12 prepare a written career plan that outlines high school work and/or high school to two- or four-year education plans leading to future employment goals?

- Is there an increase in the number of students enrolling in a two-year college the semester following high school graduation compared to the previous year's enrollment in two-year colleges?

- What types of counselor internship opportunities are available for high school counselors to learn about two-year college programs?

- What are the indicators to show an increase in Tech Prep awareness among high school and two-year college counselors?

- What is the process to evaluate activities designed for counselor training?

Equal Access for Special Populations

Section 204 of the Perkins Act requires that each Tech Prep education program "provide equal access to the full range of technical preparation programs to individuals who are members of special populations, including the development of tech-prep program services appropriate to the needs of special populations" (American Vocational Association, 1998, p. 137). Special populations are defined as:

(A) individuals with disabilities;

(B) individuals from economically disadvantaged families, including foster children;

(C) individuals preparing for nontraditional training and employment;

(D) single parents, including single pregnant women;

(E) displaced homemakers; and

(F) individuals with other barriers to educational achievement, including individuals with limited English proficiency. (p. 90)

Questions to ask when assessing equal access for special populations include:

- How do promotional items for Tech Prep marketing reflect educational equity for special populations?
- How is Tech Prep serving special populations?
- Describe the Tech Prep experiences that have benefited special populations in secondary schools and two-year colleges.
- How are services provided to allow equal access for special populations?

Preparatory Services

Section 204 of the Perkins Act requires that each education program "provide for preparatory services that assist participants in tech-prep programs" (American Vocational Association, 1998, p. 137). Preparatory services include outreach to potential career and technical education students, career and personal counseling, and vocational assessment and testing. Preparatory services are provided to students not yet enrolled in Tech Prep. The delivery of services is before the 11th grade. Questions to ask when assessing preparatory services include:

- What types of services does the consortium provide to assist students in secondary schools in the selection of or preparation for appropriate Tech Prep education program of study?

- Does the consortium have a Tech Prep marketing plan? How is the marketing plan implemented and evaluated?
- What are the promotional activities for students in grades 8 to 12, parents, businesspeople, and community members?
- What is the process to evaluate preparatory services?

Additional Tech Prep Program Elements

The Perkins Act does not limit Tech Prep evaluation to the Tech Prep seven essential program elements. Some states have developed additional program elements to increase the breadth or depth of the Tech Prep education program. One element is work-based learning experience, which allows students to understand all aspects of the industry and connect school-based learning with work-based learning. Experiences may include job shadowing, mentoring, internships, cooperative education, or youth apprenticeships. The work-based learning experience is closely related to the student's course work and pertinent to the contents of the school curriculum. Criteria for evaluating these programs include the number of businesses that provide work-based learning, the types of experiences available, and the number of work-based learning sites related to the student's career and technical education course work. Questions to ask when assessing work-based learning include:

- Does the work-based learning experience pertain to the student's career pathway/major choice?
- Does the work-based learning experience include criteria for participating?
- Has work-based learning been infused into the Tech Prep education program?
- What is the student's perception regarding the benefit of the work-based learning experience?
- What is the percent of Tech Prep students participating in a work-based learning experience?

Another potential program element is business, industry, and community involvement. Collaboration with business, industry, and community partners may be driven by the need for qualified graduates in the workplace. Criteria for evaluating this program element include an employer's degree of satisfaction with the student, involvement of partners with curriculum planning, and overall participation of partners in Tech Prep activities. Questions to ask when assessing business, industry, and community involvement include:

- What businesses sponsor Tech Prep student scholarships?
- To what extent have business, industry, and community members designed programs to orient teachers to workplace skills?

- Do business, industry, and community members view their involvement as beneficial to students?

State Evaluation Examples

Some states have developed statewide Tech Prep evaluation models that provide a framework for evaluating Tech Prep for accountability and program improvement purposes. The examples that follow provide options to collect both program and student outcomes data. State and local consortia can modify any one of the examples to assist with their evaluation efforts.

Connecticut's Indicators

Connecticut has developed the *Tech Prep Success Analysis and Measurement Indicators*[3] for state Tech Prep secondary and postsecondary participants. The 11-item indicator analysis centers on various Tech Prep components. The analysis uses quantitative responses related to program and student outcomes. The indicators cover articulation agreements, 2 + 2 program design, student diversity, employer satisfaction, and student participation, completion, and employment. The 11 indicators are as follows:

1. Number of students enrolled in Tech Prep at secondary schools with which the community-technical college has articulation agreements.

2. Secondary schools partnering with community-technical colleges in Tech Prep agreements.

3. Diversity of secondary school Tech Prep students

4. Secondary school programs (those that have Tech Prep courses in areas of communications, math, science, and career) for which Tech Prep agreements exist and the number enrolled in each program.

5. Community-technical college programs for which outcome statements have been developed and aligned with Tech Prep outcomes and Connecticut Employer Developed Skills Standards.

6. The availability of transition services.

7. Number of high school graduates who entered community-technical college who were enrolled in secondary Tech Prep through any community-technical college agreement at any time in any secondary school.

8. Number of graduates who were enrolled in Tech Prep in secondary school.

9. Number of college graduates who were enrolled in Tech Prep in secondary school who attain employment in their field of study within six months of graduation.

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[3] Permission to reprint material obtained from the Tech Prep Director, Connecticut State Department of Education.

10. Number of employers of college graduates (who were enrolled in Tech Prep in secondary school) who indicate that they are satisfied with skills presented by community-technical college graduates.
11. Number of Tech Prep students who enrolled in a community-technical college and have transferred to a baccalaureate granting institution, with or without an Associate Degree.

Florida's Tech Prep Consortia Annual Reporting

Florida's Tech Prep Consortia Annual Report has been designed to enhance the quality, effectiveness, and achievement of Tech Prep goals for each consortium. Beginning January 1, 1993, Florida International University was granted a project entitled Performance-Based Project for the Development of a Florida Statewide Plan for Evaluation. The project's activities included the planning, development, and implementation of a statewide plan to evaluate Tech Prep activities. The review included collecting data to assist with the preparation of an annual report from each consortium. The annual report provides information on a consortium's accomplishments and identifies measurable benchmarks that can be used for future comparisons. Florida's Tech Prep Consortia[4] suggest that Tech Prep should be evaluated to:

1. Document the extent to which each of Florida's Tech Prep consortia is attaining its goals/objectives as stated in its proposal to the Florida Department of Education.
2. Collect information for determining the characteristics of each of Florida's Tech Prep consortia, including (1) number and characteristics of students served, and (2) accomplishments and progress toward implementing each of the federally required key elements for Tech Prep.
3. Collect data to determine the impact of Tech Prep by identifying measurable benchmarks and parameters that can be used for programmatic comparison in the future.
4. Collect information to determine the status of Florida's role in supporting its local Tech Prep consortia and providing needed technical assistance.

A copy of the survey used to collect data for Florida's Tech Prep Consortia Annual Report is included in Appendix E.

Illinois' Tech Prep Evaluation System

In Illinois, prior to 1998, evaluation of Tech Prep education programs was carried out by local consortia and the Illinois State Board of Education (ISBE), but these activities typically addressed a distinct aspect of Tech Prep rather than an entire program. To address this void, the Tech Prep Evaluation System for Illinois (TPESI) was developed through an initiative involving the Office of Community College Research and Leadership (OCCRL) at the University of Illinois at Urbana-Champaign (UIUC), the ISBE, and the Illinois Community College Board

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[4] Permission to reprint material obtained from F. Hammons, Associate Professor, Florida International University.

(ICCB). Goals that guide the TPESI system and provide a rationale for Tech Prep evaluation include:

- Describe the status of Tech Prep implementation in Illinois.
- Identify participants in Tech Prep and describe how the participation of various Tech Prep student groups changes over time.
- Identify the benefits (outcomes) of Tech Prep for students, especially outcomes linked to student learning.
- Identify the benefits (outcomes) of Tech Prep for other stakeholder groups.
- Discern strategies that support the continuous improvement of Tech Prep within consortia statewide and at the state level.

State agencies specify that funds for Tech Prep be used to support the Tech Prep seven essential program elements. Illinois has added an eighth program element–work-based learning experiences. A copy of the TPESI is included in Appendix F. For each school and college site visit, team members rate the implementation stage and quality of the eight Tech Prep essential elements and the eight Tech Prep supporting elements as part of the School Assessment Form. The Consortium Assessment Form assesses each essential element and supporting element for the consortium overall. This form includes (a) stage of implementation, (b) quality of element, and (c) additional comments and recommendations. A matrix is provided for each element that includes a description for program and student outcome measures.

Texas Site-based Peer Review Process

Texas recently developed a site-based peer review process to assess each consortium in a range of areas and subareas. Review areas include program, instruction, counseling, professional development, marketing, budgeting, planning, student success, and evaluation. For each subarea, criteria are provided along with measurement statements, core standard descriptions, and recommended resources. Reviewers must assess whether the consortium does not meet, meets, or exceeds the standard, and they must provide explanatory comments. A complete copy of the self-study, peer review process, and evaluation form is included in Appendix G. An example of one review area is shown below.

> Review Area: Evaluation
> Subarea: Student Follow-up
> Description of Criteria: The consortium has a method for the identification and follow-up of Tech Prep students in both secondary and postsecondary programs.
> Resources: Data from multiple systems, college procedures for awarding articulated credit, and college procedures for identifying Tech Prep students.
> Measure 1: Consortium can identify secondary Tech Prep students.
> Core Standard: Consortium member secondary schools have a method to identify a student who has completed the high school portion of the Tech Prep program.
> Measure 2: Consortium can identify postsecondary Tech Prep students.

Core Standard: Consortium member colleges have a method to identify a student who is matriculating from a secondary Tech Prep program and to record the award of college credit for classes taken in high school, where applicable.
Reviewer Summary: (does not meet, meets, or exceeds standards)
Comments: (from reviewers)

West Virginia's "STARS"

West Virginia's Tech Prep standards are based on 20 "STARS" (Strategies That Advance Reform in West Virginia Schools) that cover areas including curricula, stakeholder support, marketing, and assessment measures. Each of the STARS identifies specific performance concepts, associated documentation data, and suggested strategies to achieve STARS standards. The documentation data section provides a list of items that consortium members can review to identify standards. All of the STARS have been compared with the National Association Tech Prep Leadership's (NATPL) quality indicators and Perkins III core indicators. The STARS are rated based on the presence or absence of STARS documentation data.

Consortia conduct a self-assessment of the STARS each year and submit the findings to the state Tech Prep director. Once every three years, an on-site technical review by the state Tech Prep director and a team of local Tech Prep coordinators follows this self-assessment. (A complete copy of the STARS document can be obtained by contacting West Virginia's Tech Prep Director at 304-558-2411.) Two examples of West Virginia's STARS follow.[5]

STAR 11 (Stakeholder Support): *Counselors are actively involved in the Tech Prep initiative.* Counselors play an important role in assisting students with career decisions for life after school. It is critical that counselors are well informed about the many opportunities available to students who choose the Tech Prep curricula.

Documentation Data: Three of the four following items must exist:

1. Counselor's council or cabinets exist within the Tech Prep consortia and meet on a regular basis focusing on Tech Prep issues and concerns.

2. Counselors are knowledgeable of Tech Prep options and career offerings through attendance of workshops, individual research, Internet training, and so on.

3. Counselors provide technical assistance for advisor/advisee programs concerning the skilled/Tech Prep component within the programs of study.

4. Counselors demonstrate knowledge of applied academics through proper student placement in applied courses.

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[5] Permission to reprint material obtained from West Virginia's Tech Prep Director.

Suggested activities specified in the STARS documentation include:

- Develop counselor councils that focus on career information and Tech Prep issues.
- Tech Prep coordinator participates in county counselors' meetings to provide career information or other information counselors may need.
- The consortium provides professional development that targets career information, five-year plans, work-based learning, and Tech Prep initiatives.

STAR 20 (Assessment): *School systems utilize data to make decisions.* The collection of data must be followed by analysis of the data, using it to make changes in areas of low performance or to enhance successful practices. Assessments need to be made on an annual basis to sustain a quality Tech Prep initiative. Consortia must collect, analyze, and apply the knowledge learned to improve Tech Prep.

Documentation Data:

1. Define the process being used to analyze the collected data.
2. Report the findings and the changes made within the Tech Prep initiative that are a direct result of the data.

Suggested activity specified in the STARS documentation include:

- The consortium conducts an annual workshop at the end of each school year to examine data from the Tech Prep initiative and set future goals and objectives based on the findings.

Wisconsin's Performance Measures

Wisconsin has developed Tech Prep performance measures that are incorporated into existing local data systems. The performance measures focus on particular elements of the Tech Prep education program and are quantitative in nature. Student data are reported through the Vocational Education Enrollment Report System (VEERS) managed by the Department of Public Instruction and the Client Reporting System at the Wisconsin Technical College System Board. Local consortia use the 15 performance measures when reporting student and program outcomes at the end of each year. Most consortia have been collecting and reporting these data for the past five years. This has allowed local consortia to set baseline data and identify goals for several years. Wisconsin's 15 performance measures are:[6]

1. The number of high school graduates enrolling in technical college the semester following high school graduation.

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[6] Permission to reprint material obtained from the Executive Director, Governor's Work-Based Learning Board.

2. The number of high school graduates entering a one- or two-year technical college program the semester following high school graduation who need remedial course work in order to be admitted to or to receive a diploma/degree from the technical college program of their choice.

3. The number of high school graduates completing a one- or two-year technical college program (associate degree or vocational diploma/certificate) within three years of initial entry.

4. The number of students in 9th through 12th grade having written career plans that outline a high school to work and/or high school to post secondary education plan leading to future employment goals. The ultimate expectation is that *all* 11th and 12th grade students will have these plans.

5. The rate of participation by 11th and 12th graders in selected Tech Prep activities by gender will exceed 25%.

6. The rate of participation of 11th and 12th grade special populations in selected Tech Prep activities will be greater than or equal to the rate of participation of 11th and 12th grade general population students in the same activities.

7. The number of 9-12 secondary students in school-supervised, work-based learning experiences.

8. The number of high school students in 11th and 12th grade who successfully completed course work that would be eligible for advanced standing credit.

9. The number of high school graduates who applied advanced standing credit to a technical college program after high school.

10. The number of high school students in 11th and 12th grade who earned transcripted credit (refers to that credit granted by the technical college system for technical college courses).

11. The number of high school graduates who applied transcripted credits to a technical college program after high school.

12. The number of high school courses that are revised and upgraded to include integrated and applied learning activities.

13. (a) The number of secondary teachers, counselors, principals, assistant principals, and directors of instruction in internships that result in improved curriculum, teaching strategies, or counseling strategies.

    (b) The number of postsecondary teachers and administrators in internships that result in improved curriculum and teaching strategies.

14. The number of high schools with curriculum maps developed for technical college associate degree programs and two years of a baccalaureate degree.
15. The number of secondary schools that included Tech Prep in district wide educational policy statements.

Local Evaluation Examples

Some consortia have developed local evaluation models to collect data unique to their Tech Prep programs. Secondary schools and two-year colleges can use these examples to guide the development of their own evaluation and reporting plans.

The Central Montana Tech Prep Consortium uses a Likert six-point rating scale to help secondary schools and two-year colleges self-assess their progress on a range of factors. The factors evaluated include commitment of leaders to Tech Prep, faculty and staff awareness of and involvement in Tech Prep, the existence of articulation agreements, provisions for professional development, a plan for career guidance, relevance of instruction to the labor market, appropriate curriculum design, organization of administration, clearly developed marketing plan, outreach program for target populations, system to monitor data collection results, and a system for annual review. A complete copy of Central Montana's Assessment of Tech Prep Components document is provided in Appendix H.

In addition to the state and local evaluation examples provided, a rubric has been developed to assess Tech Prep program and student outcomes (see Appendix I.) The rubric provides components that a local consortium should evaluate. Consortia rate each component using the criteria provided. Following the assessment of each component, a consortium should develop an action plan to improve the areas where no effort or minimal efforts were reported.

Summary

This section described the Tech Prep seven essential program elements and provided questions to assess each program element. Selected state and local Tech Prep evaluation models were presented to provide a framework for evaluating Tech Prep education programs. State and local consortia can modify any one of the models to meet their evaluation efforts. Section III will discuss the Perkins core indictors and provide Tech Prep performance measure examples for the 15 subindicators within each core indicator.

SECTION III: REPORTING ON TECH PREP PERFORMANCE MEASURES FOR PERKINS CORE INDICATORS

The Office of Vocational and Adult Education (OVAE) has developed a core indicator framework to assist with the Perkins IIII requirements for performance reporting. As previously discussed in Section I, each state plan must identify performance measures for the core indicators (OVAE, 2000a). The core indicator framework is for all career and technical education (CTE) programs.

Overview of Perkins Core Indicators

The Perkins core indicators include (a) student attainment, (b) credential attainment, (c) placement and retention, and (d) participation in and completion of nontraditional programs. First, each core indicator has been divided into secondary subindicators (denoted by **S** in the subindicator title) and postsecondary subindicators (denoted by **P** in the subindicator title). Second, each core indicator has been divided into subindicators for measurement. For example, core indicator one, *student attainment*, has been divided into the subindicators *academic attainment* and *vocational and technical skill attainment*. Each of the core indicators and subindicators can be used as a starting point to develop Tech Prep performance measures at the secondary and postsecondary levels.

Tech Prep Performance Measures

Each state is responsible for identifying and collecting data related to each performance measure. A performance measure is defined as "the type of outcome that is considered appropriate for monitoring" (Hoachlander, Levesque, & Rahn, 1992, p. 9). This section provides examples of Tech Prep performance measures to assist with data collection in response to the Perkins core indicators. These examples demonstrate different approaches to measuring the 15 subindicators. Each statement specifies (a) a quantifiable measure (e.g., percentage, number), (b) a timeline (e.g., two semesters, six months, one year), and (c) the sample population (e.g., Tech Prep student, completer, or concentrator). The targets (e.g., 3% improvement) can be set against benchmarks, standards, or previous performance. Data from each of these performance measures can be analyzed, summarized, and submitted as part of the state plan for vocational education and the reporting on Perkins III accountability requirements.

Evaluators should plan to develop performance measures that show the *impact* of Tech Prep on student outcomes. Examples of performance measures include the number of articulated credits applied toward two- and four-year degrees, the number of skill-enhanced courses taken at the two-year college level, the percentage of students requiring remediation, the number of students obtaining employment directly related to their two-year college degree, standardized test score gains, competency or skills attainment, course completion rates, drop-out rates, graduation rates, and employment and unemployment rates. Evaluators should also use baseline data for comparison and ensure that Tech Prep students, concentrators, and completers are defined. The Perkins performance measures below were modified to address Tech Prep performance measures. The following examples were derived from Perkins III state plans:

Core Indicator 1: Student Attainment

1S1: Secondary Academic Attainment

***Subindicator goal:* All Tech Prep[7] students who reach a state-defined threshold level of career and technical[8] education will master academic knowledge and skills that meet challenging state and academic standards.**

Sample Tech Prep Performance Measures:

a) ___ percent of Tech Prep concentrators will complete the high school graduation requirements.

b) There will be a ___ percent increase of graduating Tech Prep concentrators scoring at or above the national average on a standardized test.

c) The number of Tech Prep students enrolled in advanced placement courses will increase by ___ percent.

1S2: Secondary Career[9] and Technical Skill Attainment

***Subindicator goal:* All Tech Prep students who reach a state-defined threshold level of career and technical education will master the knowledge and skills that meet state-established, industry-validated career and technical standards.**

Sample Tech Prep Performance Measures:

a) The percentage of secondary Tech Prep concentrators who meet or exceed the minimum competency requirements measured by state-administered, industry-validated instruments that are valid and reliable will increase by ___ percent by ___ (insert year).

b) The percent of Tech Prep students who complete an approved career and technical education (CTE) program and receive a "C" or better GPA in the CTE program will increase ___ percent in comparison with a corresponding average of the previous two years.

c) The Tech Prep student score on a licensure or certification examination, for those fields in which licensure or certification is required, industry-endorsed competency examination, or a state-recognized test will increase by ___ percent by ___ (insert year).

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[7] For the purpose of this guide, the subindicator goals have been defined for Tech Prep. The data collected for the subindicator goals should relate to Tech Prep students in secondary schools and two-year colleges.

[8] For the purpose of this guide, career and technical has replaced the word vocational.

[9] For the purpose of this guide, career has replaced the word vocational.

1P1: Postsecondary Academic Attainment
Subindicator goal: **All Tech Prep students who reach a state-defined level of career and technical education to complete a postsecondary program will master the knowledge and skills that meet program-defined academic standards.**

Sample Tech Prep Performance Measures:

a) ___ percent of matriculated postsecondary Tech Prep students who enrolled in the fall of each year in academic and career and technical courses will successfully complete the courses as measured by credits earned at the end of the semester.

b) ___ percent of postsecondary Tech Prep concentrators will receive a "C" or better in general education courses at the postsecondary level.

c) The number of students entering postsecondary education requiring remediation will decrease by ___ percent the year following high school graduation.

1P2: Postsecondary Career and Technical Skill Attainment
Subindicator goal: **All Tech Prep students who reach a state-defined threshold level of career and technical education to complete a postsecondary program will attain the knowledge and skills that meet program-defined and industry-validated career and technical standards.**

Sample Tech Prep Performance Measures:

a) On average, there will be a _____ percent increase in Tech Prep students enrolling in credits beyond their postsecondary degree requirements.

b) ___ percent of postsecondary Tech Prep graduates of degree programs with professional licensure exams who take the exams will pass.

c) ___ percent of postsecondary Tech Prep students will have attained a degree, a certificate, apprenticeship, or industry certification two years following enrollment in the degree program.

d) ___ percent of postsecondary Tech Prep completers will attain a 3.0 GPA on a 4.0 scale in career and technical courses each semester following enrollment in the degree program.

Core Indicator 2: Credential Attainment

2S1: Secondary Completion

Subindicator goal: **All Tech Prep students who reach a state-defined threshold level of career and technical education will attain a secondary school diploma or its recognized state equivalent.**

Sample Tech Prep Performance Measures:

a) ___ percent of Tech Prep students who graduated will obtain a high school diploma or its recognized equivalent each year.

b) The rate at which secondary Tech Prep concentrators become completers will be ___ percent for _____(insert year) and ___ percent over four years.

2S2: Proficiency Credential with Secondary Diploma

Subindicator goal: **All Tech Prep students who reach a state-defined threshold level of career and technical education will attain a proficiency credential in conjunction with a secondary school diploma or its state-recognized equivalent.**

Sample Tech Prep Performance Measures:

a) ___ percent of Tech Prep students who graduate with a high school diploma will equal or exceed the statewide graduation rate each year.

b) ___ percent of Tech Prep concentrators will receive a high school diploma or a high school equivalency and will receive a local, state, or national credential, and exit secondary education during the reporting year.

c) The percentage of secondary Tech Prep completers who receive a proficiency credential will increase by ___ percent by _____ (insert year).

2P1: Postsecondary Degree or Credential

Subindicator goal: **All Tech Prep students who reach a state-defined threshold level of career and technical education to receive postsecondary degrees, certificates, or credentials will receive these postsecondary credentials.**

Sample Tech Prep Performance Measures:

a) ___ percent of the postsecondary Tech Prep students will obtain an associate degree or technical certificate within three years of enrolling in the degree program.

b) The rate at which postsecondary Tech Prep concentrators become completers will be ___ percent for _____ (insert year) and ___ percent over four years.

c) ___ percent of postsecondary Tech Prep students will successfully pass a state and/or national licensure/certification examination in __________ (insert name of program).

Core Indicator 3: Placement and Retention

3S1: Secondary Placement
Subindicator goal: **All Tech Prep students who reach a state-defined threshold level of career and technical education during secondary education will successfully transition to postsecondary education or advanced training, employment, and/or military service.**

Sample Tech Prep Performance Measures:

a) ___ percent of Tech Prep students will be placed in postsecondary education or advanced training within ___ months of high school graduation.

b) Within one year of high school graduation, at least ___ percent of Tech Prep concentrators will matriculate into a postsecondary education program or registered apprenticeship.

c) ___ percent of secondary Tech Prep completers will be enrolled in a postsecondary education program within six months of graduating from high school.

3S2: Secondary Retention
Subindicator goal: **All Tech Prep students who reach a state-defined threshold level of career and technical education and who leave secondary schooling and who are placed in postsecondary education or advanced training, employment and/or military service will be retained in these activities.**

Sample Tech Prep Performance Measures:

a) ___ percent of Tech Prep concentrators who respond to the follow-up survey will still be engaged in postsecondary education and/or employment within one year of graduation.

b) ___ percent of Tech Prep students who completed an approved Career Technical Education program left school and were placed in postsecondary education or employment six months after graduation.

3P1: Postsecondary Placement
Subindicator goal: **All Tech Prep students who reach a state-defined threshold level of career and technical education to complete a postsecondary program will successfully transition to further education or advanced training, employment, and/or military service.**

Sample Tech Prep Performance Measures:

a) The number of Tech Prep students who obtained employment directly related to their postsecondary degree has increased by ___ percent.

b) ___ percent of postsecondary Tech Prep completers responding to the graduate survey will be in baccalaureate programs or employed ___ (insert number) months after high school graduation.

c) ___ percent of postsecondary Tech Prep completers will be employed in positions related to their program of study or will have continued their education ___ (insert number) months after high school graduation.

3P2: Postsecondary Retention
Subindicator goal: **All Tech Prep students who reach a state-defined threshold level of career and technical education who leave secondary schooling and who are placed in further postsecondary education or advanced training, employment, and/or military service will be retained in these activities.**

Sample Tech Prep Performance Measures:

a) ___ percent of postsecondary Tech Prep completers who respond to the graduate survey will be retained in baccalaureate programs or employed ___(insert number) months after high school graduation.

b) ___ percent of postsecondary Tech Prep completers will be employed within ___ (insert number) months of graduation and continue to be employed 6 months following initial employment.

c) ___ percent of postsecondary completers (two-year) articulated credits to a four-year institution and are pursuing baccalaureate degrees.

Core Indicator 4: Participation in and Completion of Nontraditional Programs

4S1: Participation in Secondary Nontraditional Programs
***Subindicator goal:* All secondary career and technical education programs preparing Tech Prep students for further training and employment in careers or occupations with significant underrepresentation of males or females will increase participation of underrepresented males or females.**

Sample Tech Prep Performance Measures:

a) The number of Tech Prep students who enrolled in and completed a nontraditional career and technical education program within industry clusters will be ___.

b) The rate at which secondary Tech Prep concentrators access programs preparing for training and employment in careers or occupations with significant underrepresentation by gender will be ___ percent for _____ (insert year) and ___ percent over four years.

c) At least ___ percent of Tech Prep students in underrepresented gender groups will be enrolled in courses that have been identified as leading to nontraditional employment for that gender.

4S2: Completion of Secondary Nontraditional Programs
***Subindicator goal:* All secondary career and technical education programs preparing Tech Prep students for further training and employment in careers or occupations with significant underrepresentation of males or females will increase program completion for underrepresented males or females.**

Sample Tech Prep Performance Measures:

a) The number of nontraditional Tech Prep students who enrolled in and completed a career and technical education program within industry clusters will be ___.

b) ___ percent of secondary Tech Prep completers in a nontraditional career and technical education program will be from underrepresented gender groups.

c) The rate at which secondary Tech Prep concentrators complete programs preparing for further training and employment in careers or occupations with significant underrepresentation by gender will be ___ percent in _____ (insert year) and ___ percent over four years.

d) The percentage of Tech Prep concentrators in underrepresented genders in nontraditional programs who do not complete the nontraditional program will decrease by ___ percent by _____ (insert year).

4P1: Participation in Postsecondary Nontraditional Programs
***Subindicator goal:* All postsecondary career and technical education programs preparing Tech Prep students for further training and employment in careers or occupations with significant underrepresentation of males or females will increase participation of underrepresented males or females.**

Sample Tech Prep Performance Measures:

a) ___ percent of postsecondary Tech Prep students participating in a nontraditional career and technical education program will be from underrepresented gender groups.

b) The rate at which postsecondary Tech Prep concentrators access programs preparing students for training and employment in careers or occupations with significant underrepresentation by gender will be ___ percent for _____ (insert year) and ___ percent over four years.

4P2: Completion of Postsecondary Nontraditional Programs
***Subindicator goal:* All postsecondary career and technical education programs preparing Tech Prep students for further training and employment in careers or occupations with significant underrepresentation of males or females will increase program completion for underrepresented males or females.**

Sample Tech Prep Performance Measures:

a) The percentage of postsecondary Tech Prep students by gender graduating from nontraditional degree programs during the most recent academic year will increase by ____ percent.

b) ___ percent of postsecondary Tech Prep completers in a nontraditional career and technical education program will be from underrepresented gender groups.

c) There will be a ___ percent increase in total postsecondary Tech Prep completers who are from underrepresented genders in nontraditional occupational programs from _____ (insert year) to _____ (insert year).

Summary

This section provided an overview of the Perkins four core indicators and 15 secondary and postsecondary subindicators. Examples of Tech Prep performance measures were provided to assist state and local consortia with data collection. Data collection for each of the subindicators will assist with reporting the impact of Tech Prep efforts. The impact will address both program and student outcomes data. Section IV describes ways to collect, analyze, and present Tech Prep data for the Tech Prep seven essential program elements and performance measures.

SECTION IV: COLLECTING, ANALYZING, AND PRESENTING TECH PREP DATA

In Section II, questions were presented to assist with the evaluation of the Tech Prep seven essential program elements. In Section III, Tech Prep performance measures were provided to report student outcomes data for the Perkins core indicators. This section will assist state and local consortia with collecting, analyzing, and presenting Tech Prep student and program outcomes data.

Collecting Data

Data collection is the process of collecting information for reporting purposes. A timeline for completing the evaluation needs to be developed and should anticipate potential hindrances (e.g., staffing shortages, program changes). The specific dates for data collection should be determined in light of the evaluation objectives and methods. For example, if the objective is to measure postsecondary retention over one year, data collection should be designed around this timeline.

Most evaluators use a combination of data collection methods to obtain the required information and assist with documenting impact. According to Ruhland et al. (1995), "given the complexity and variety of Tech Prep programs, it is critical that multiple methods be used to conduct program assessment" (p. 19). There are multiple methods available to collect data. To select the best methods for a particular situation, evaluators should begin with the evaluation objectives and then "select the methods that will provide the most credible answers" (McMillan, 2000, p. 252). A description of three common data collection methods follows.

Tests

Tests, commercially produced or independently developed, are frequently used to collect data. When selecting or designing tests, evaluators should seek information about the validity and reliability of the instruments and how the scores are interpreted. Norm-referenced and criterion-referenced tests can help the evaluator compare individuals' scores with scores of other groups. A norm-referenced test compares an individual score to the scores of a group of individuals using the same test (e.g., Tech Prep students scored above 90 % of all students in the computerized accounting class). A criterion-referenced test specifies a specific goal or criterion for students to achieve (e.g., Tech Prep completer achieves at least 80 out of 100 on the principles of accounting exam).

To promote validity and reliability, uniform methods for administering and scoring the test are specified (McMillan, 2000). To evaluate a commercially developed test, evaluators should seek information about the instrument from the developer, industry journals, publishers' test catalogs, test critiques, and test directories (Wolf, 1990). Standardized tests appropriate for Tech Prep reporting of student academic achievement include ACT, ASSET, and two-year college admission tests. Tests used to measure occupational knowledge include Work Keys and licensure exams required of certain occupations (e.g., automotive technician, network administrator).

Interviews

Interviews vary from structured question-and-answer formats to informal conversations. Although time-consuming, individual or small-group interviews can provide highly detailed and useful information for interpretation (Wolf, 1990). Interviewers should be trained to conduct the interview and collect data in a consistent manner to ensure that the information is comparable. The interviewer's skills in developing rapport, asking appropriate questions, and listening effectively are crucial to the success of this data collection method. Examples of questions to ask Tech Prep students include: What have been the benefits to participating in Tech Prep? In what ways could Tech Prep be improved? What aspects of Tech Prep were most helpful?

Surveys

A Tech Prep student identifier survey can be developed to record student information. This survey could ask for (a) name, (b), career clusters, (c) course name, (d) gender, (e) social security number, (f) date of birth, and (g) plans for first year out of high school. The survey can be in an electronic format to simplify data analysis. The following statement can be included on the Tech Prep identifier survey to obtain permission to access the student's data: "You are not required to provide the following information requested. If you do not wish to respond to an item, leave it blank. By signing and dating the survey, you are indicating that you have provided this information and give (insert school name) permission to use the data." The *Statement of Informed Consent* allows states to access and report student information once permission has been obtained. Accessing student information at the secondary and postsecondary level will assist with identifying Tech Prep students and reporting student outcomes data.

A number of consortia and states have generously provided copies of surveys they use to collect Tech Prep data. These examples serve as a model to assist consortia with the data collection process. Administrator, teacher, and counselor surveys are provided in Appendices J, K, and L, respectively. These surveys collect information about individuals' involvement in Tech Prep education program elements, use of different teaching methodologies, and perceptions of Tech Prep. Examples of student follow-up surveys are provided in Appendix M. This example can assist consortia in collecting data after students have exited from the Tech Prep education program. A parent survey, provided in Appendix N, gathers information about parents' understanding and perceptions of Tech Prep. An employer follow-up survey, provided in Appendix O, gathers feedback from employers about Tech Prep graduates.

These sample surveys provide a starting point for state and local consortia designing Tech Prep data collection tools. (The author of this guide recommends that you contact the author or consortium listed for specific information on the reliability and validity of any of the surveys provided.) Thomas (1999) offers the following guidelines for developing and administering surveys:

1. Plan - Use your objectives to plan the purpose and content of the survey, and select the target audience. Determine the resources and personnel required, and specify a time frame.

2. Develop - Create the survey tool, using questions that probe for specific data. Consider the methods that participants will use to respond to questions (e.g., yes/no, rating scales, checklists, ranking, open-ended questions). Ensure that clear directions are provided with the survey.

3. Obtain respondents - Seek informed consent from the participants or from their parents or guardians before administering the survey. Attach a cover letter to explain the purpose of the survey and provide incentives for completing the task.

4. Prepare for data collection - Pilot test the survey on a sample group to test the clarity of instructions and questions, and the validity of the data collected. Design a method for tracking the information.

5. Collect data - Distribute the survey. Collect and record the data from completed surveys. Ensure that confidentiality is maintained for all respondents.

The Center on Occupational Research and Development (CORD) has developed a series of surveys to assist local Tech Prep consortia. Five surveys make up CORD's *Measures of Tech Prep Excellence* evaluation. (For additional information, contact CORD at www.cord.org). Surveys have been developed to rate local consortia at the secondary and postsecondary levels, to measure parent and employer support, and to obtain student feedback. A series of statements for each survey are rated on a scale of 0 to 4 to measure the success of the school's Tech Prep education program. Examples include the following statements[10]:

1. Administrators/leaders in my school are supported by a Tech Prep committee or council that improves and sustains our Tech Prep education program.

2. Counselors in my school are aware of what components and initiatives support Tech Prep education programs.

3. Teachers in my school inform students about options available to them other than four-year degrees.

4. Parents are invited to participate in Tech Prep orientation meetings.

5. The community or technical college partnering with my school works with employers to identify employability standards required by their businesses and industries.

6. Employers partnering with my school actively support Tech Prep education programs.

Improving survey response rates. Thomas (1999) suggests several techniques for improving survey response rates. The format of the survey should be appealing to the participant and easy to read. The shorter the survey, the better the response rate will be. The survey should be associated with a respected sponsor and prefaced by a cover letter explaining the value of the survey data to the person and the education community. Follow-up can be conducted more than once, using multiple avenues, such as letters, telephone calls, and e-mail. The survey should also be designed to facilitate ease of return for the respondent. Evaluators can include self-addressed stamped envelopes, provide e-mail reply addresses, or develop Web-based forms for participants to submit.

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[10] Permission to reprint material obtained from D. Bond, Vice President for Education/Employer Partnerships, CORD.

Tech Prep evaluators may begin the survey process by educating the participants about the purpose and value of the survey well in advance. For example, in the year preceding graduation, Tech Prep students from secondary schools and two-year colleges should be informed about surveys that will be sent to them after graduation. Students should be encouraged to complete and return the surveys to assist with Tech Prep data collection efforts and future program planning.

Tech Prep participant and non-participant survey. On a national level, a survey has been developed to obtain information from Tech Prep participants and non-participants (Bragg, Dare, Reger, Ovaice, Zamani, Layton, Dornsife, Valle, Brown, & Orr, 1999). The survey collected data from consortia in eight states and included approximately 4,700 students. A 32-item questionnaire (see Appendix P) was devised to collect information about (a) high school educational experiences and work, (b) transition to college and college experiences, (c) post-high school work experience and expectations, and (d) demographics and personal characteristics. Data were collected between 1998 and 1999. This survey can be modified to obtain Tech Prep participant and non-participant student data. Findings from the eight states are available in the final report (Bragg, et al., 1999).

Career Clusters

In addition to collecting data related to a consortium's Tech Prep evaluation objectives, the U.S. Department of Education (1999) Consolidated Annual Performance, Accountability, and Financial Status Report requires states to collect and report Tech Prep student enrollment data by the 16 career clusters. "The significance of the 16 career clusters is that the standards are being set at the federal level, but states decide if they want to use the DOE clusters. States may decide to adopt all 16 clusters or to develop crosswalks and use their own clusters. They may currently have five clusters and decide to break them into 16" (Robertson, 2000, p. 32). The 16 career clusters (see Appendix Q) represent careers from entry level through professional and technical management. Also included in Appendix R is a list of career clusters and occupations identified by OVAE. Career clusters provide students the flexibility to move within clusters and explore careers based on their goals and interest. The OVAE career clusters Web site (www.ed.gov/offices/OVAE/clusters) contains individual career clusters, a list of pilot sites, and career cluster models.

"During this transition from the previous classification reporting system to this new career clusters reporting system, the decision to place state specific courses and programs in a career cluster rests with the state" (U. S. Department of Education, 1999, p. 16a). Many states are moving in this direction. For example, in Missouri efforts have begun to match each career and technical education course in secondary schools and two-year colleges with one of the 16 career clusters. "The transition to the 16 career clusters will take time but will provide students more career options and broaden the existing career avenues. Eventually Missouri will develop a crosswalk linking the 16 career clusters with the six career paths presently used in Missouri to guide appropriate students through the career exploration process" (H. Kujath, Coordinator, Community and Career Education, Department of Elementary and Secondary Education, Missouri, personal communication, September 19, 2000). To access Missouri's *16 Career Cluster Assignment List*, go to the Division of Vocational and Adult Education home page http://www.dese.state.mo.us/divvoced/. Click on Perkins III Accountability Measures – Report Forms (top of the page) and then the 16-career cluster list.

Analyzing Data

"Data analysis is "the process of making sense out of one's data" (Merriam, 1988, p. 127). Analysis is synthesizing and interpreting information in order to develop reasonable conclusions. Institutions often collect data but seldom take the next step to analyze the data. "Using data to manage and improve programs, academic or vocational, is relatively foreign to many educators and administrators" (Hoachlander, Levesque, & Rahn, 1992, p. 111). If data have been collected, often those responsible for program evaluation are not sure how to go about using the data.

A state or local consortium will need to determine the best way to analyze Tech Prep data in light of its evaluation objectives. Database programs provide a useful way for Tech Prep evaluators to store, analyze, and manage information. Databases can be used to organize particular data elements relating to Tech Prep students, including demographics, enrollment details, academic performance, course completion, articulated credits gained, and work-based experiences. Databases can summarize the information and create reports based on queries.

A number of consortia currently use database programs to collect and analyze Tech Prep data. Some consortia have access to state-administered databases that manage a broad range of student information and provide regular reports. In some cases, consortia have modified these databases to meet their unique needs. Some states use commercially developed database programs, and other consortia have built their own databases to meet specialized needs.

Most evaluators report that implementing the use of a database program is expensive and time-consuming. Also, there are ongoing costs associated with maintaining and upgrading database programs. In the long term, however, the information gained is valuable, and database programs provide an efficient way of recording vast amounts of information. State and local consortia should look for opportunities to collaborate in collecting and analyzing data. Collaborative systems can provide centralized comprehensive information storage, reduce individual costs, and promote the exchange of useful data. Tech Prep evaluators should plan ways to obtain the resources needed to develop and maintain database programs. A list of local consortia that have developed Tech Prep database programs is provided in Appendix R. Individuals listed within these consortia can be contacted to discuss the processes used to develop their respective database program.

Data analysis can occur in a formative manner (ongoing) or a summative manner (at the end of the program), depending on the evaluation method used (Dutton et al., 1994). During and after the data collection phase, the data are coded as a step in the data analysis process. Coding may entail dividing the data by demographics, flagging any points of interest, categorizing according to program features, or filing under sub-topics. The analysis should include inspecting the data for trends and underlying causes. Are there any areas that show particularly strong results or particularly poor results? Do the data change over time? Are there better results at any point during the timeline of the data collection? Is it possible that intervening variables might have influenced the validity or reliability of the data?

To enhance the data analysis process, Tech Prep evaluators should become familiar with other relevant data, such as state and local data, annual averages, standards, benchmarks, and past performance. After the data are analyzed, key points that relate to the initial evaluation objectives should be identified. It is appropriate to comment on both strengths and weaknesses of the Tech Prep education program being evaluated. At the least, evaluators need to report findings as specified by the state plan and as determined to be useful for future planning and decision making.

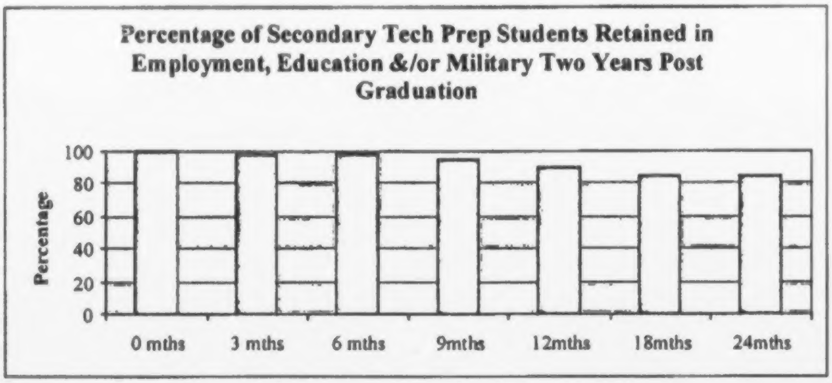
Presenting Data

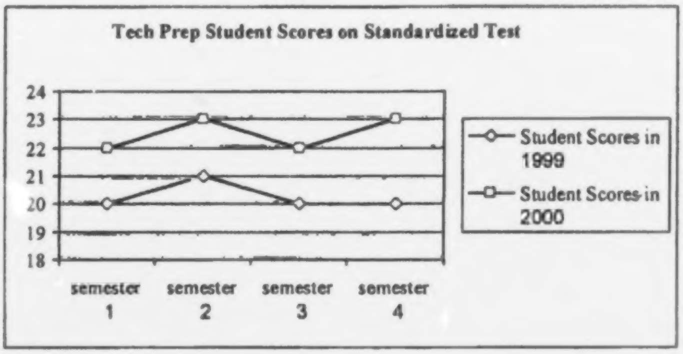
To synthesize and report Tech Prep data, evaluators can use various approaches. Schmoker (1996) notes that "data make the invisible visible, revealing strengths and weaknesses that are easily concealed" (p. 38). Visual representations of data, such as tables, bar graphs, and pie charts, can help present results clearly so that trends and patterns can be identified. Tables report the relationship between two or more variables and the frequencies of responses for each variable. Bar graphs present the data based upon the number of observations identified for each category. Pie charts usually illustrate the proportions or percentages of the total number possible. Descriptive summaries can be used to further explain the data and factors involved. Following are examples of ways to present Tech Prep data.

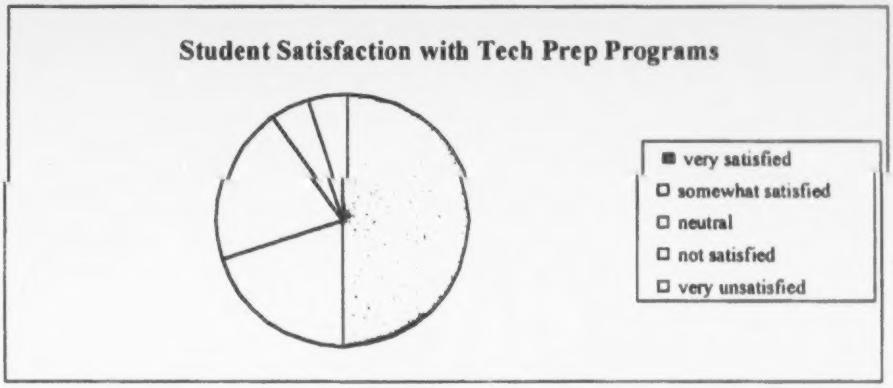
Remediation Rates for Students in Postsecondary Tech Prep Programs

Tech Prep program	Number of graduates enrolled in postsecondary education	Number and percentage of graduates enrolled in remedial courses at the postsecondary level
Allied Health	13	3 (23%)
Automotive	8	0 (0%)
Computer Support Technology	25	2 (8%)

Articulated Credit Courses at Sample Tech Prep Consortium		
Name of course	**Secondary articulated courses (course number)**	**Postsecondary articulated courses (course name)**
Business Computer Applications	100, 105, 106, 107	Principles of Computing Introduction to MS-Windows
Criminal Justice I **Criminal Justice II**	100, 104, 106, 107, 110	Crime in America Fundamentals of Criminal Law
Electronics I **Electronics II**	101, 104, 106, 107, 110	DC Circuits AC Circuits


Percentage of Secondary Tech Prep Students Retained in Employment, Education &/or Military Two Years Post Graduation


Tech Prep Student Scores on Standardized Test



The following example further illustrates how a consortium can analyze and present Tech Prep data.[11] These data were collected as part of a national study titled *Tech Prep Implementation and Preliminary Student Outcomes for Eight Local Tech Prep Consortia* directed by Bragg et al. (1999) to study Tech Prep implementation and student outcomes. The purpose of the study was to determine the degree to which students in the study group (compared to the other students) identified as Tech Prep (a) participate in and complete the career and technology high school portion of Tech Prep education program (six-year plans approved by the state process); and (b) complete more than the state minimum mathematics and/or science courses required for high school graduation. The study involved field visits, surveys of Tech Prep and non-Tech Prep participants, and analysis of secondary and postsecondary transcripts for students in both groups.

Transcripts for 575 students who graduated in 1995, 1996, and 1997 from six high schools were examined to determine the degree to which the students' course-taking patterns aligned with state-approved Tech Prep six-year plans. (In the example, data are presented for one of the six high schools.) Student transcripts were examined for participation in one or more career and technology courses that are part of state-approved Tech-Prep programs (one or more courses may be articulated for college credit). The number of career and technology credits completed in non-Tech-Prep (TP) programs was also calculated. Data are presented using a variety of tables and bar graphs. The examples further illustrate ways to present Tech Prep data. For each transcript, the following variables were addressed to assess the career/technology and math/science course taking patterns of students:

1. The number and percentage of TP and non-TP students in each school completing 2 or more credits (1 credit = 1 year) in the same discipline in more than one state-approved Tech-Prep area (Figure 1 and Table 3).

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[11] Permission to reprint material obtained from C. Brown (unpublished paper), Director, Texas Statewide Tech Prep Leadership and Evaluation.

2. The number and percentage of TP and non-TP students in each school completing up to 1 and 1/2 career and technology credits that are part of a state-approved Tech-Prep program (*TP program participant*) (Figure 2 and Table 4).
3. The number and percentage of TP and non-TP students in each school completing 2 career and technology credits that are part of a state-approved Tech-Prep program (*TP program concentrator*) (Figure 2 and Table 4).
4. The number and percentage of TP and non-TP students in each school completing 2 1/2 or more career and technology credits that are part of a state-approved Tech-Prep program (*TP program completer*) (Figure 2 and Table 4).
5. The number and percentage of TP and non-TP students in each school completing more than the minimum mathematics requirements for high school graduation (at least 3 credits including Algebra 1, Algebra II, and Geometry) and science (at least 2 1/2 credits regular-level courses – Biology, Physical Science, Chemistry, Physics, Principles of Technology, etc.) (Figure 3 and Table 5).
6. The number and percentage of TP and non-TP students in each school who qualify as a career and technology concentrator (completing 2 or more credits in at least one Tech-Prep area) (Figure 4 and Table 6).
7. The number and percentage of TP and non-TP students in each school who qualify as a career and technology concentrator (completing 2 or more credits in at least one Tech-Prep area) and who complete more than the minimum state mathematics and/or science graduation requirements (Figure 5 and Table 7).

RESULTS - 110 total student transcripts analyzed

School year	Number of Tech-Prep students	Number of non-Tech-Prep students
1994-95	3	3
1995-96	20	20
1996-97	32	32

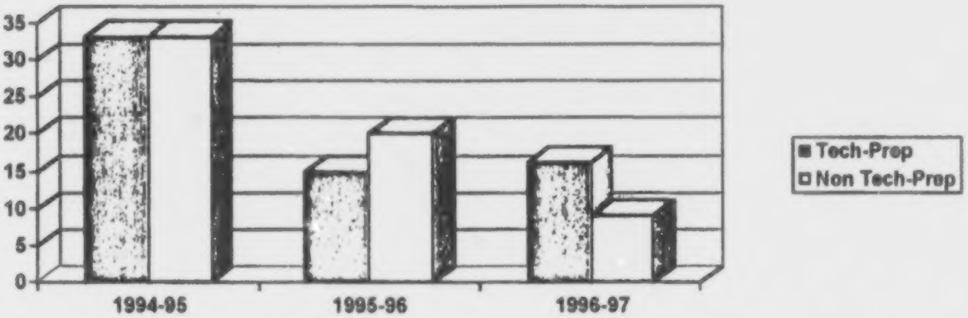

Figure 1. Percentage of students completing more than 2 credits in more than one state-approved Tech-Prep program

School year	1994-95	1995-96	1996-97
Tech-Prep	1 of 3 (33%)	3 of 20 (15%)	5 of 32 (16%)
Non-Tech-Prep	1 of 3 (33%)	4 of 20 (20%)	3 of 32 (9%)

Table 3. Number of students completing more than 2 credits in more than one state-approved Tech-Prep program

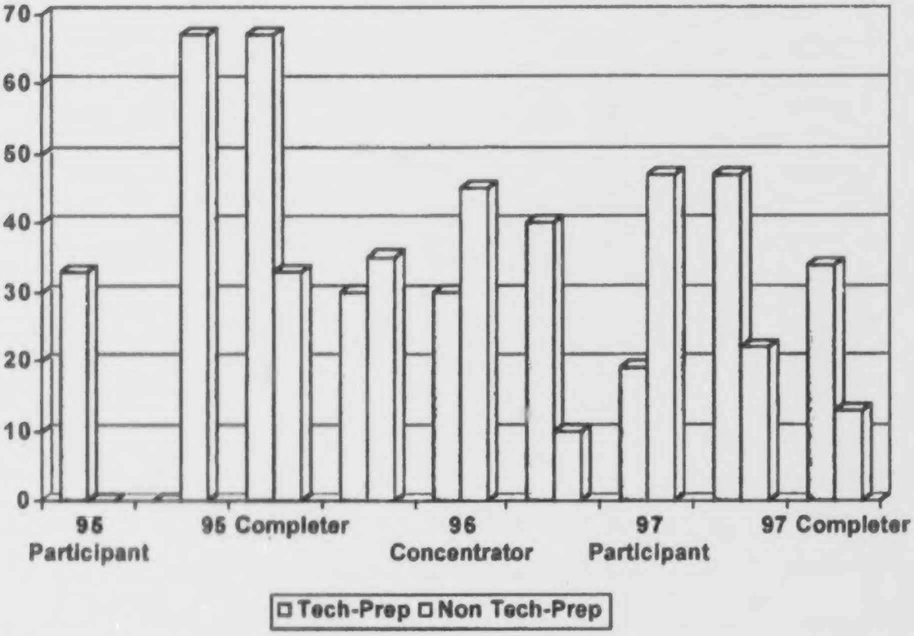

Figure 2. Percentage of students classified as participants, concentrators, or completers of state-approved Tech-Prep programs

School year	1994-95	1995-96	1996-97
Tech-Prep			
▪ Participant	1 of 3 (33%)	6 of 20 (30%)	6 of 32 (19%)
▪ Concentrator	0 of 3 (0%)	6 of 20 (30%)	15 of 32 (47%)
▪ Completer	2 of 3 (67%)	8 of 20 (40%)	11 of 32 (34%)
Non-Tech-Prep			
▪ Participant	0 of 3 (0%)	7 of 20 (35%)	15 of 32 (47%)
▪ Concentrator	2 of 3 (67%)	9 of 20 (45%)	7 of 32 (22%)
▪ Completer	1 of 3 (33%)	2 of 20 (10%)	4 of 32 (13%)
▪ Non-participant	0 of 3 (0%)	2 of 20 (10%)	6 of 32 (19%)

Table 4. Number of students classified as participants, concentrators, or completers of state-approved Tech-Prep programs

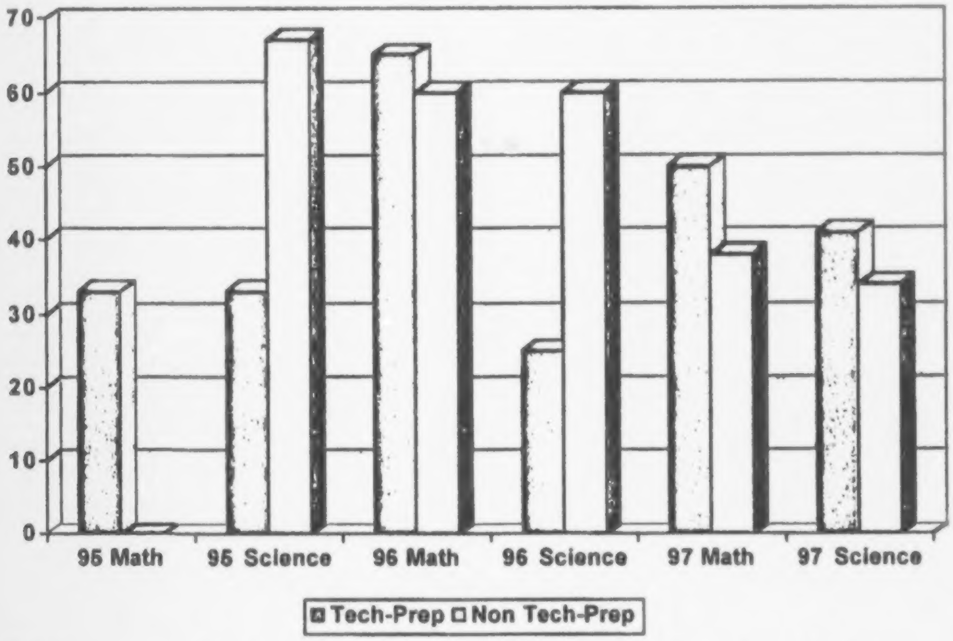

Figure 3. Percentage of students exceeding the minimum state mathematics and science graduation requirements

School year	1994-95	1995-96	1996-97
Tech-Prep			
▪ Math	1 of 3 (33%)	13 of 20 (65%)	16 of 32 (50%)
▪ Science	1 of 3 (33%)	5 of 20 (25%)	13 of 32 (41%)
Non-Tech-Prep			
▪ Math	0 of 3 (0%)	12 of 20 (60%)	12 of 32 (38%)
▪ Science	2 of 3 (67%)	12 of 20 (60%)	11 of 32 (34%)

Table 5. Number of students exceeding the state minimum mathematics and science graduation requirements

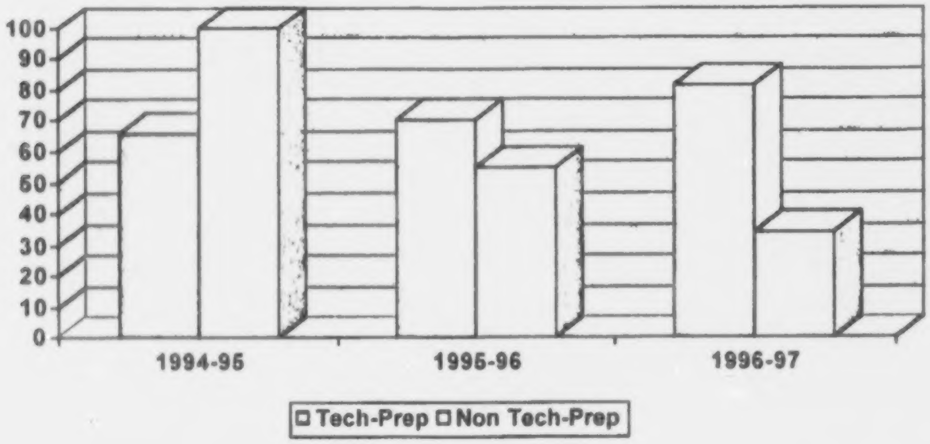

Figure 4. Percentage of students completing at least 2 credits in a state-approved Tech-Prep program (*CT concentrator or completer*)

School year	1994-95	1995-96	1996-97
Tech-Prep	2 of 3 (67%)	14 of 20 (70%)	26 of 32 (81%)
Non-Tech-Prep	3 of 3 (100%)	11of 20 (55%)	11 of 32 (34%)

Table 6. Percentage students completing at least 2 credits in a state-approved Tech-Prep program (*CT concentrator or completer*)

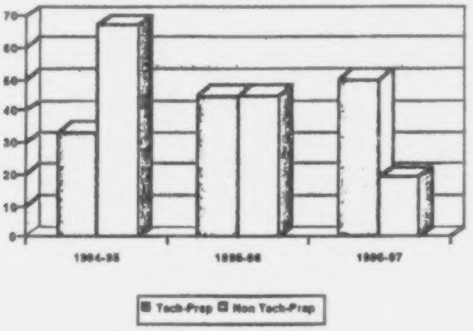

Figure 5. Percentage of students completing at least 2 credits in a state-approved Tech-Prep program (*CT concentrator or completer*) AND completing more than the state minimum math and/or science graduation requirement

School year	1994-95	1995-96	1996-97
Tech-Prep	1 of 3 (33%)	9 of 20 (45%)	16 of 32 (50%)
Non-Tech-Prep	2 of 3 (67%)	9 of 20 (45%)	6 of 32 (19%)

Table 7. Number of students completing at least 2 credits in a state-approved Tech-Prep program (*CT concentrator or completer*) AND completing more than the state minimum math and/or science graduation requirement

Summary

Section IV provided information to assist local and state consortia in their efforts to collect, analyze, and present Tech Prep data for the purposes of program improvement and program accountability. Also included in this section are several methods for presenting the data. Section V will link the Tech Prep evaluation process to program improvement and will conclude with suggestions for communicating Tech Prep evaluation results to stakeholders.

SECTION V: LINKING THE TECH PREP EVALUATION PROCESS TO PROGRAM IMPROVEMENT

An important purpose of conducting a Tech Prep evaluation is to enhance program improvement. Evaluation processes should be integrated into Tech Prep education program planning so that the results of evaluations can be used to guide decision-making and future planning. Ultimately, this should lead to action involving "program change, innovation or improvement" (Barak & Breier, 1990, p. 58).

In this section, four strategies are introduced to link evaluation findings with program improvement. The strategies include action-planning, continuous quality improvement, total quality management, and Malcolm Baldrige Strategies. By integrating one of these strategies with the evaluation process, the institution can plan a process to implement recommendations for Tech Prep program improvement. This section concludes with providing suggestions to communicate evaluation results.

Action-planning

Evaluators can employ action-planning techniques to link the evaluation findings to future changes in Tech Prep education programs. Action-planning helps individuals or groups follow through on learning. Educational leaders should ask the question, "Based on what we have learned, what should we do now?" Action-planning can occur at a state or local consortium level and may involve participants from secondary schools and two-year colleges.

Action-planning starts by engaging practitioners in reflecting carefully on the results of the evaluation and putting the results into context. This process engages practitioners in identifying strengths and weaknesses in both the Tech Prep education program and the evaluation process. Following this reflection, action-planning participants should prioritize the issues and set new goals, focusing on activities that have a high impact on student and program outcomes. Priorities should be clearly linked to educational and legislative standards.

Once the priorities are set, the action plan can be developed. Generally, the plan takes the form of a written commitment to take certain actions. A typical plan can be designed to suit the parties involved, and it will often describe goals, objectives, strategies, potential barriers, and needed resources (human, technical, and funding). The plan should clearly state deliverables, responsibilities, and timelines for all activities and stakeholders. Criteria and monitoring methods (e.g., who, when, how) should be specified. Ultimately, the plan should provide the framework for achieving the goals.

Planning of this type has occurred across the country by Tech Prep consortia. For example, Mid-Minnesota's School-to-career/Tech Prep consortium has been incorporating action-planning since 1994 (Schroeder, 2000). The planning starts at the local consortium with the Tech Prep leadership team identifying the goals for each of Minnesota's seven Tech Prep indicators. The Tech Prep leadership team identifies the strategies to assist the nine secondary schools within the consortium to develop their local plans. Each secondary school has the flexibility of identifying the individuals responsible for completing the action plan. The plan is designed to meet the individual secondary school's needs. Resources are identified for each strategy. During the spring, summaries of the action-planning results are submitted to the local consortium Tech Prep director. The nine secondary schools meet to discuss their individual activities and the goals achieved.

Continuous Quality Improvement

To ensure that evaluation and action-planning link to future Tech Prep education program improvements, institutions can use a continuous quality improvement approach. Continuous quality improvement (CQI) is the continuous monitoring and modifying of programs to upgrade quality. Institutions should build in systems and structures that support and promote CQI within their programs and evaluation models. CQI stems from a range of sources including the quality movement, total quality management, and the Japanese *kaizen* view of quality.

Kaizen focuses on the process rather than the results (Dixon & Swiler, 1990). It involves everyone in the organization to maintain and improve programs. Tech Prep can apply this philosophy by involving a range of consortium members in CQI and on-going program review. The action-planning team could also assist with these efforts.

To understand CQI, the term *quality* needs to be defined. Numerous definitions of *quality* exist. Proctor and Gamble defines *quality* as "the unyielding and continually improving effort by everyone in an organization to understand, meet and exceed the expectations of customers" (Bragg, 1992, p. 16). In Japan, *quality* often means "anything that can be improved" (Dixon & Swiler, 1990, p.18). Tech Prep's definition of *quality* may be defined by legislation or local, regional, or state policies. Data collected to evaluate Tech Prep education programs should document state or local consortia quality indicators.

The National Association of Tech Prep Leadership (NATPL) has developed a list of quality indicators to provide a consistent vision for Tech Prep education programs. The quality indicators are written for five integral Tech Prep program components: (a) accountability/ sustainability, (b) student opportunities, (c) curriculum, (d) articulation, and (e) professional development. These indicators can be used as a benchmark for Tech Prep continuous quality improvement. A copy of the quality indicators is provided in Appendix S.

Texas has developed a minimum of two quality measures for each of the 10 review areas included in the Tech Prep consortium site visit (see Appendix G). A site visit includes the review of each measure. The reviewer rates each measure as "meets standard" or "does not meet standard." As a result, measures meeting the standard can be expanded, and measures that do not meet the standards can be addressed and corrected. This process permits the consortium to be in a continuous quality improvement cycle.

Total Quality Management

The total quality management (TQM) movement has been valuable in shaping CQI. TQM is a set of management practices that aims for total quality, that is, where the customers' requirements are incorporated into the product design or service (Brunetti, 1993). Brunetti's principles include (a) putting the customer first; (b) managing by fact; (c) planning, doing, checking, and acting, or using a systematic approach to improve; (d) focusing on prevention; (e) promoting employee involvement in the process; and (f) using cross-functional management, that is, cooperating across functional boundaries. For Tech Prep, these principles translate to building the customer (e.g., student, parent, stakeholder, teacher, business partner, consortium) into the design and delivery of Tech Prep education programs. One strategy for implementing these principles is to include all key stakeholders in the action-planning team. In TQM "a fundamental concept…is that outputs are never good enough; the threshold for quality is continually raised" (Bragg, 1992, p. 20). The principles of TQM can be used as a tool in planning continuous quality improvement into Tech Prep education programs.

Florida's Tech Prep evaluation model incorporates the TQM model (Hammons, 1995). The model includes three operational components to encourage the ongoing process of continuous quality improvement: (a) documentation, (b) analysis, and (c) improvement. Documentation includes the gathering of data related to the development and implementation of Tech Prep goals, completion of a Tech Prep self-study, and assessment of eight Tech Prep essential program elements. The analysis component involves analyzing the data collected from the documentation process. Quantifiable goals and benchmarks are reported for each consortium. The third component, improvement, involves implementing change as part of future program planning. Consortia recommend areas for improvement and implement a plan for change. The improvement phase is monitored for overall impact.

Malcolm Baldrige Strategies

The Malcolm Baldrige National Quality Award (www.baldrige.org) provides criteria as a management guide for quality improvement in America. Ross (1993) states that the common themes of the Baldrige award are customer-driven quality, continuous improvement, measurement, participation, leadership, and management by data (rather than experience or intuition).

The Baldrige Education Criteria for Performance Excellence provide a valuable framework to assess and measure. Seven criteria are used to assess education: (a) leadership, (b) strategic planning, (c) student and stakeholder focus, (d) information and analysis, (e) faculty and staff focus, (f) educational and support process management, and (g) organizational and performance results. The criteria focus on five organizational performance areas: (a) student performance results, (b) student and stakeholder focused results, (c) budgetary and financial results, (d) faculty and staff results, and (e) organizational effectiveness results. The criteria and performance areas can be integrated into Tech Prep to enhance CQI.

In Minnesota, a Tech Prep Self-Evaluation System model (Pucel, Brown, & Kuchinke, 1996) was designed using the Malcolm Baldrige National Quality Award criteria. The model "was designed to gather data on program outcome measures to monitor actual consortium productivity, and to gather self-evaluation data as a basis for program improvement" (p. 82). Key stakeholders were involved in the process, and data were collected to help consortia effectively identify areas of improvement. Tech Prep evaluators can use these guidelines to assist in developing CQI strategies.

Communicating Evaluation Results

As with any new initiative, those promoting change must be careful to educate and include others in the efforts. Planners must be sure to gain the commitment and involvement of stakeholders. Including stakeholders in the evaluation process facilitates this. Communication should occur frequently among stakeholders to allow for questions to be asked and information to be distributed. Other means of communication may include a Web site, a quarterly stakeholder meeting, a monthly Tech Prep newsletter, or a Tech Prep annual report. Informal methods of communication can also be promoted, such as telephone conversations and e-mail. The Action-Planning Team (APT) should consider creating a specific communications or marketing role within the committee or consortium. Finally, the APT must monitor the implementation of the action plan. Specific responsibility for monitoring should be assigned to an individual person who will be required to review the action plan and measure the progress against goals on an annual basis.

Summary

After an initial evaluation is completed, it is important to review the results, identify future program plans, and set new goals for program improvement. Tech Prep consortia should build systems and structures to support and promote continuous improvement within the Tech Prep education program. In Section V, four strategies were presented to link evaluation with program improvement. The principles of continuous improvement should be viewed as a tool to assist with program improvement. Evaluation results should be communicated to decision makers when they will most likely need them. Communicating results is one way to educate and inform others about Tech Prep efforts at the state and local level.

GLOSSARY

Baseline – current level of performance, a specific value that can serve as a basis for comparison or judgment.

Benchmark – the optimal level of performance for comparison or judgment.

Career clusters – 16 clusters have been created by the U.S. Department of Education, Office of Vocational and Adult Education, to assist students in planning their pathways to college and/or employment. Examples of career clusters include information technology, business and administration, and arts, audio video technology and communications.

Career guidance and academic counseling – access to information regarding career awareness and planning with respect to an individual's occupational and academic future that involves guidance and counseling with respect to career options, financial aid, and postsecondary options (Carl D. Perkins Vocational and Applied Technology Act, 1998).

Career pathways – career and technical education programs that link related courses of study from secondary school through two-year colleges. College-level credit can be earned by completing courses at the secondary level. Career pathways are unique to program and course offerings in a local consortium.

Career and technical education – prepares both youth and adults for a wide range of careers, from registered nurse to computer technician, that require varying levels of education–from high school to postsecondary certificates to two-and four-year college degrees (Retrieved March 17, 2001, from the World Wide Web: http://www.acteonline.org/faqs/faqs.html).

Cohort – a group of individuals having a statistical factor (e.g., age or class membership) in common in a demographic study.

Cooperative education – a method of instruction of education for individuals who, through written cooperative arrangements between a school and employers, receive instruction, including required academic courses and related vocational and technical education, by alternation of study in school with a job in any occupational field; the alternation shall be planned and supervised by the school and employer so that each contributes to the education and employability of the individual, and may include an arrangement in which work periods and school attendance may be on alternate half days, full days, weeks, or other periods of time in fulfilling the cooperative program (American Vocational Association, 1998, p. 88).

Core indicator framework – the framework developed by the Office of Vocational and Adult Education to assist states with performance accountability for vocational and technical education. The framework addresses the 4 Perkins core indicators and 15 subindicators. It defines the goals, performance measures, and state measurement approaches for each of the 15 subindicators. Additionally it defines the quality criteria (validity, reliability, cost-effectiveness, system-focused and management utility) for assessing state measurement approaches (Office of Vocational and Adult Education, 2000a).

Displaced homemaker – an individual who (a) has worked primarily without remuneration to care for a home and family, and for that reason has diminished marketable skills; has been dependent on the income of another family member but is no longer supported by that income; or is a parent whose youngest dependent child will become ineligible to receive assistance under part A of title IV of the Social Security Act (42 U.S.C. 601 et seq.) not later than 2 years after the date on which the parent applies for assistance under this title; and (b) is unemployed or underemployed and is experiencing difficulty in obtaining or upgrading employment (American Vocational Association, 1998, p. 88).

Evaluator – individuals responsible for planning and conducting an evaluation in order to judge the value or effectiveness of a program.

Individual with limited English proficiency (LEP) – a secondary school student, an adult, or an out-of-school youth who has limited ability in speaking, reading, writing, or understanding the English language, and (a) whose native language is a language other than English; or (b) who lives in a family or community environment in which a language other than English is the dominant language (American Vocational Association, 1998, p. 89).

Individual with a disability – an individual with any disability (as defined in section 3 of the Americans with Disabilities Act of 1990 (42 U.S.C. 12102) (American Vocational Association, 1998, p. 89).

Internship – program organized for students or recent graduates at the secondary or postsecondary levels to undergo supervised practical training in the workplace.

Management utility – the degree to which measurement approaches are useful in managing continuous improvement at the state and local levels (Office of Vocational and Adult Education, 2000a, p. 9).

Nontraditional training and employment – occupations or fields of work, including careers in computer science, technology, and other emerging high-skill occupations, for which individuals from one gender comprise less than 25 percent of the individuals employed in each such occupation or field of work (American Vocational Association, 1998, p. 90).

Performance measures – the definition of the performance measures for each subindicator including the definition of the numerator and denominator of each performance measure (Office of Vocational and Adult Education, 2000a, p. 7).

Performance measurement approaches – a state approach for each performance measure. These approaches include assessment and data collection strategies (Office of Vocational and Adult Education, 2000a, p. 8).

Performance standards – the minimum standards of performance required of a Tech Prep student or program. Performance standards (e.g., 80% retention rate) may be set by the state, consortium, or institution for a specific time frame (e.g., school year). Performance standards can be developed based on baseline data, benchmarks, criteria, or previous performance.

Postsecondary educational institution – (a) an institution of higher education that provides not less than a two-year program of instruction that is acceptable for credit toward a bachelor's degree; (b) a tribally controlled college or university; or (c) a nonprofit educational institution offering certificate or apprenticeship programs at the postsecondary level (American Vocational Association, 1998, p. 90).

Practitioner – administrators, teachers, counselors, trainers, workplace supervisors, and other professionals working with Tech Prep education programs.

Program outcomes – benefits or changes for individuals or populations during or after participating in program activities. Outcomes may relate to behavior, skills, knowledge, attitudes, values, condition, or other attributes. Program outcomes may include Tech Prep student knowledge and skill levels, employment rates for Tech Prep students, or employer satisfaction with Tech Prep graduates.

Quality criteria for performance measurement – the quality criteria for performance measurement to ensure sufficient rigor and comparability of state performance measurement and reporting (Office of Vocational and Adult Education, 2000a, p. 8).

Reliability– the degree to which performance measurement is conducted in a consistent manner using standardized or consistent data collection instruments (e.g., student record forms, surveys, assessment instruments) and effective management information systems for insuring data quality (Office of Vocational and Adult Education, 2000a, p. 8).

School dropout – an individual who is no longer attending any school and who has not received a secondary school diploma or its recognized equivalent (American Vocational Association, 1998, p. 90).

Special populations – (a) individuals with disabilities; (b) individuals from economically disadvantaged families, including foster children; (c) individuals preparing for nontraditional training and employment; (d) single parents, including single pregnant women; (e) displaced homemakers; and (f) individuals with other barriers to educational achievement, including individuals with limited English proficiency (American Vocational Association, 1998, p. 90).

Stakeholder – individuals and groups who have a direct interest in and may be affected by the program being evaluated or the evaluation's results (Worthen, Sanders, & Fitzpatrick, 1997).

Student outcomes – changes that occur in individuals as a result of participation in an educational experience. Frequently expressed in terms of the value that is added to an individual as a consequence of that participation (Bragg, 1992).

Subindicator goals – the long-term vision or goal statement for each subindicator –that is, what we hope to achieve in the future through continuous improvement of vocational education (Office of Vocational and Adult Education, 2000a, p. 7).

Tech Prep essential program elements – required for Tech Prep education programs: (a) articulation agreement, (b) appropriate curriculum design, (c) curriculum development, (d) in-service teacher training, (e) counselor training, (f) equal access for special populations, and (g) preparatory services (American Vocational Association, 1998).

Threshold level of vocational education – a program or sequence of courses or instructional units that provides an individual with the academic and technical knowledge, skills, and proficiencies to prepare the individual for employment and/or further or advanced education (Office of Vocational and Adult Education, 2000a, p. 10).

Validity – the degree to which a performance measurement approach directly and fully measures program and student outcomes at an appropriate interval. Produce valid data when they use assessment and other data collection instruments that have strong content validity (Office of Vocational and Adult Education, 2000a, p. 8).

Vocational and technical education – organized educational activities that (a) offer a sequence of courses that provides the academic and technical knowledge and skills that individuals need to prepare for further education and for careers (other than careers requiring a baccalaureate, master's, or doctoral degree) in current or emerging employment sectors; and (b) include competency-based applied learning that contributes to the academic knowledge, higher-order reasoning, and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills of an individual (American Vocational Association, 1998, p. 92).

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APPENDIX A
Template for Perkins Core Indicator

CORE INDICATOR 1 – Student Attainment

Sub-indicator	Goal	Measure	Measurement Approach	Quality Criteria for Measurement Approach
1S1. Secondary Academic Attainment	All students who reach a state-defined threshold level of vocational education will master academic knowledge and skills that meet challenging state academic standards.	Numerator: Number of students reaching a state-defined threshold level of vocational education and who have met state academic standards and have left secondary education in the reporting year. Denominator: Number of students reaching a state-defined threshold level of vocational education and who have left secondary education in the reporting year.	State Academic Assessment System- State defined performance benchmarks on state-developed academic assessment systems used in state educational accountability systems including high school graduation qualification examinations. National Standardized Academic Assessments - State defined performance benchmarks on national standardized assessments. Academic Course Completion- State-defined performance benchmark (e.g. grade, certificate) in designated academic courses including integrated academic/vocational courses. Academic Grade Point Average- State -defined grade point average for designated academic courses including integrated academic/vocational courses. Embedded Academic Assessment in Vocational/Integrated Courses/Programs - Performance benchmark on course or program assessments in integrated courses and programs. Overall Grade Point Average- State defined grade point average for all courses in the school or program. High School Graduation/Program Completion- Graduating from high school or completing a program (when graduation or completion is the same as attaining state- or program-defined academic standards.	Alignment to State Academic Standards- Attainment measures and assessment systems are aligned to state academic content and performance standards. Scope of Attainment Measurement- Attainment measures address all of the core academic content areas (language arts, mathematics, social studies, science) addressed in state academic standards and assessed in state assessment systems. Timing of Attainment Measurement- Attainment is measured concurrent with or after concentrated participation in vocational education. Reliability of Attainment Measurement- Attainment is measured using reliable assessment instruments that are administered consistently in assessment systems. Student Coverage in Attainment Measurement- Performance measurement reports attainment data for all students reaching state-defined threshold levels in the state.

Permission to reprint material obtained from V. Schray, U.S. Department of Education, Washington DC.

APPENDIX B
Nebraska's Suggested Tech Prep Performance Measures and Possible Standards

Type of Outcome	Measures	Possible Standards
Learning Outcome	High school Tech Prep education program completion.	More than 45% of all high school graduates complete a Tech Prep program sequence of courses.
	Community college degree, two-year certificate completion.	Completion rate greater than 60% for all who are admitted within 5 years.
	Combined sequence of academic and vocational courses.	All high school graduates will have 2 years in a sequential vocational education program with at least 2 years of related, applied academics.
	Basic and advanced skills competency.	90% of community college enrollees will meet the ASSET admissions standards.
		100% of Tech Prep education program completers will demonstrate basic and advanced academic skill gains commensurate with program objectives, or the student's individualized education plan as determined at the local level.
		Tech Prep graduates will demonstrate higher gains in basic and academic skills compared to nonprogram students.
	Occupational skills competency.	90% of Tech Prep students will attain 100% of the occupational skills identified for that program at the local level.
	Advanced placement in community college.	30% of beginning Tech Prep students will gain advanced placement or receive a comparable amount of postsecondary credit.
	Equity in learning outcomes for special population students.	Learning outcome rate for special population students are comparable to the rates for the total population.
	Gender equity outcomes.	Learning outcome rates for males and females are comparable.

Type of Outcome	Measures	Possible Standards
Placement Outcomes	Community college enrollment following high school.	Enrollment rate greater than 35% for all Tech Prep graduates within one year of graduation (2 + 2).
	Higher education enrollment.	Enrollment rate of community college graduates greater than 30% within 5 years of graduation (2 + 2 + 2).
	Employment in related occupation.	More than 50% of Tech Prep graduates obtain employment in a related occupation within 1 year of graduation.
	Transition to Apprenticeship.	30% of Tech Prep students will have entered into an apprenticeship certified by the Bureau of Apprenticeship and Training.
	Equity in placement outcomes for special population students.	Post-program placement rates for special population students are comparable to the placement rates for the total population.
	Gender equity outcomes.	Post-program placement rates for males and females are comparable.

APPENDIX C
Examples of Tech Prep Student, Concentrator, and Completer Definitions

Tech Prep Student

	Secondary Definitions	Postsecondary Definitions
AZ	A Tech Prep student at the secondary level is one who is enrolled in a program during high school which encompasses an approved vocational program of study articulated with a community college for preparation in a technical career, as well as an academic core program which includes a minimum of four years of English, two years of mathematics and two lab science courses. Core academic courses may be existing college prep courses and/or courses specifically designed to provide high level academic skills within a vocational context. While not required, the student may be participating in a school-to-work transition program or registered apprenticeship program as well.	A Tech Prep student at the postsecondary level is one who is enrolled in an associate degree or certificate program that articulates with a secondary vocational program completed by the student or for which specific vocational courses taken at the secondary level result in adequate preparation for this degree or certificate. In addition, a Tech Prep student may be one whose associate degree or certificate program includes continuation of an articulated school-to-work program, and/or one who is in a registered apprenticeship or certificate program.
FL	A student enrolled in an articulated, sequential program of study (enrolled in level 2 or above courses) at grade level or above by grade 11 in mathematics, science, and communications, including a technical component, which leads to a minimum of a two-year postsecondary certificate or degree and/or apprenticeship program.	
IL	One who has made a conscious decision to follow a clearly defined sequence of courses to prepare for employment in a Tech Prep occupation. The student has declared Tech Prep as a major and has an Individualized Career Plan indicating a Tech Prep occupation as a career goal.	

MA	A student who has indicated an intent to pursue, and is enrolled in courses within a recognized Tech Prep education plan that consists at a minimum of 2 years of secondary and 2 years of postsecondary study; is carried out under a written articulation agreement; allows the student to earn postsecondary credit while in secondary school; and leads to a specific postsecondary 2-year certificate, degree or apprenticeship.	A student who has participated in the secondary portion of a recognized Tech Prep education plan and has enrolled in the postsecondary portion of that education plan and may have transferred in college credit earned in secondary school.
MI	A student who has an Educational Development Plan that indicates that he/she is enrolled in a specific Tech Prep (2+2) Program curriculum leading to an Apprenticeship, Certificate or Associate degree in a specific career field.	A student who has an Educational Development Plan that indicates that he/she is enrolled in a specific Tech Prep (2+2) Program curriculum leading to an Apprenticeship, Certificate or Associate degree in a specific career field.
MN	A secondary student who is enrolled in a Tech Prep technical course(s) of 91-180 hours within a recognized Tech Prep program.	
MO	A student engaged in the Tech Prep Education Program is formally counted as a Tech Prep student when they initially enroll in the Department of Elementary and Secondary Education's approved vocational course(s) portion of the program and when they make a commitment to pursuing completion of an associate or baccalaureate degree, post-secondary certificate, or two more year apprenticeship program in a specific field of study.	
NC	All students are targeted. As explained for career pathways, all students "need both the strong academic foundation and the technical skills to be successful in today's world." So, all students should design their course of study based on the recommended courses for a career path that would lead to a chosen career.	
NE	A student who is enrolled in one or more applied or technical courses that are delineated in a Tech Prep intent to articulate or articulation agreement.	A student who is enrolled at the community college and has completed one or more applied or technical secondary school courses that are delineated in a Tech Prep intent to articulate or articulation agreement.

NY	Any junior or senior who was selected as part of a recruitment process and participated in a minimum of Tech Prep math and Tech Prep English courses, a technical career cluster and transition to technical college activities.	
OH	One who is enrolled in a sanctioned Tech Prep program, beginning in grade 11 and continuing through the associate degree in the occupational and employability competency delivery system.	
OK	1)The student has chosen a career cluster from those that have been identified, developed, and implemented by the tech prep consortium. 2)The individual student plan of study has been developed with the assistance of a counselor, advisor, or another person familiar with the tech prep mission. The parent or guardian must be given the opportunity to participate in plan development. The individual plan of study must consist of a non-duplicated sequence of courses linking secondary education to postsecondary education and may include a worksite experience component including a youth or registered apprenticeship. 3)The career cluster chosen by the student requires technical preparation. 4)The plan of study for the career cluster chosen by the student results in a postsecondary outcome such as licensure, certification, or an associate/baccalaureate degree.	
OR	A student who chooses, in his/her junior or senior year, to enroll in a major course of study in a 2+2 Tech Prep program. Tech Prep students must earn a minimum of two credits in professional-technical courses between their junior and senior year, and these programs should be linked to a two-year associate degree program at the community college.	

TN	A student who has a four or six year plan that includes participating in an approved official Tech Prep program designed specifically to prepare the student for a postsecondary degree, certificate, or approved apprenticeship leading to employment in related technical career fields. To be approved, a Tech Prep program must be governed by a consortium between secondary and postsecondary educational institutions with a formal articulation agreement.	
TX	A student in grades 9-12 who follows an approved Tech Prep high school plan of study leading to postsecondary education and training, and is enrolled in courses appropriate to that plan.	A student who declares a major leading to an associate of applied science degree that is state approved as Tech Prep.
WI	A Tech Prep student is defined as any student who chooses to access career counseling, career exploration or technical preparation course of study. A technical preparation course of study is sequential and combines at least two years of secondary and two years of postsecondary education leading to an associate, or a baccalaureate degree, a postsecondary certificate in a specific career field, or placement in appropriate employment or further education.	
WY	A student who has taken one semester course and is currently taking a second semester course in a vocational program or has taken two or more semester courses in a vocational program.	A student who has taken two semester courses and is currently taking a third semester course in a vocational program or has taken three or more semester courses in a vocational program.

Tech Prep Concentrator		
Secondary Definitions		**Postsecondary Definitions**
CT	Students who have taken a sequence of two or more credits in a single vocational and technical area (a credit equals one full year).	
ID	A student who has completed three or more semesters of a professional-technical program sequence by the fall of his/her junior year.	
LA	A student who has attained the academic and technical knowledge / skills / proficiency with a program/sequence of courses or instructional units that provides an individual with the academic and technical knowledge / skills / proficiencies to prepare the individual for employment and/or further/advanced education.	
MS	Students who have crossed the threshold of participation by completing three or more courses or equivalent hours of instruction in a single career or industry.	Students who are enrolled in vocational and technical education certificate or degree programs.
MT	A student who has received at least three units of vocational course credit during a high school career. A unit of credit equals two semesters of study.	A student who declares a program of study in vocational / technical education.
NM	Those students enrolled in an identified program or coherent sequence of courses or instructional units providing them with the academic an technical knowledge, skills and proficiencies to prepare for employment and/or further/advanced education and students who have completed three or more career-technical courses in that sequence (secondary).	Those students enrolled in an identified program or coherent sequence of courses or instructional units providing them with the academic an technical knowledge, skills and proficiencies to prepare for employment and/or further/advanced education and students who have completed nine postsecondary credit hours, and have declared a career-technical education major (postsecondary).
OR	A student who has accumulated at least two credits in an approved professional technical education program during the four years of high school.	A student who has completed more than half of a state approved professional technical education certificate or degree program.

RI	A 9th, 10th, 11th or 12th grade student who has indicated an intent to pursue and has enrolled in, and has completed at least two semesters of courses in either a)a state recognized career and technical education program…or b) a sequence of recognized courses in an educational plan that consists at a minimum of 2 years of secondary study and 2 years of postsecondary study which is carried out under a written articulation agreement which allows the student to earn postsecondary credit while still in secondary school, and leads to a specific postsecondary 2 year certificate degree or apprenticeship, or high-skilled employment.	
WY	A student who has taken three or more semester courses in a vocational program, including those who may be currently enrolled in their third course.	A student who has taken six or more semester courses in a vocational program, including those who may be currently enrolled in their sixth course.

Tech Prep Completer		
Secondary Definitions		**Postsecondary Definitions**
CA	A student who has completed a capstone vocational course- typically the third in a sequence of courses offered in a vocational program area.	
IL	A student who follows a written career plan indicating a Tech Prep occupation as a career goal, and takes a sequence of program specific core academic and technical courses prepare for a Tech Prep occupation during two years of secondary school preceding graduation.	A student who articulated to a non-duplicative academic and technical course of study for a Tech Prep occupation leading to an associate of applied science degree, two-year certificate, or two-year apprenticeship following high school, and completes two years of postsecondary education which led to an associate of applied science degree, two-year certificate, two-years of an apprenticeship, or articulated from a community college to a four-year baccalaureate degree in a Tech Prep occupation.
MA	A student who has participated in both the secondary and postsecondary portions of the recognized Tech Prep education plan and has received an appropriate postsecondary 2-year degree, certificate or apprenticeship license.	A student who has participated in a different associate degree program in college than his/her secondary Tech Prep program and receives a postsecondary degree, 2-year certificate or license.
NJ	A student who has attained the vocational and technical skills within a state-approved occupational program that provides the individual with the academic and technical knowledge/skills/ proficiencies to prepare the individual for employment and/or further/advanced education.	
OH	A student who has followed an approved Tech Prep curriculum pathway and has earned an associate degree with an advanced skills certificate.	A student who has enrolled in and completed an approved workforce development program and has demonstrated sufficient mastery of their vocational and academic subject matter to prepare them for their career and life-long learning goals as set forth in their individual career plan, and is no longer enrolled in secondary school.

RI	Students who have completed course requirements for either of the following: a) a state recognized career and technical education program, or b) a sequence of recognized courses in an education plan consisting at a minimum of 2 years of secondary study carried out under a written articulation agreement allowing the student to earn postsecondary credit while still in high school, and leading to a specific postsecondary 2 year certificate degree, apprenticeship, or high skilled employment.	

APPENDIX D
Generic Tech Prep Articulation Agreement (OR)

between
Mt. Hood Community College
and
Participating High School

WHEREAS, Mt. Hood Community College (MHCC) is the program community college serving students at ____ High School; and

WHEREAS, MHCC has an established _________________ Division that offers a _________________ program to students; and

WHEREAS, the resources of these two education agencies may be shared for the mutual benefit of both programs and the benefit of those students served; and

WHEREAS, each education agency has determined that the students can be served through a tech prep articulation program in _________________ for the purpose of providing students with linked educational opportunities.

THEREFORE, it is hereby resolved that the MHCC _________________ Division and ____________ High School mutually agree to the conditions set forth in this agreement to grant tech prep college credit for ____________ High School ____________ classes listed on the agreement addendum approved by MHCC.

MHCC tech prep credits are available to ____________ High School students as follows:

- ___ credit hours of tech prep credit will be awarded upon successful completion of ________ and approval by MHCC
- tech prep credit awarded as part of this agreement will be applicable to the ____________ degree program listed in the current MHCC catalog. Participation in tech prep does not automatically enroll a person to the named college program.
- tech prep credit will be transcripted by MHCC for an annual registration fee of $25. All tech prep and Early Collegiate Opportunity classes that a student registers for in the course of the school year are covered by this registration fee. Regular tuition for credit granted under this agreement will be waived.

Services provided by Mt. Hood Community College

1. provide a staff member to function as the contact person and coordinator for the _________ high school. The coordinator will be responsible for implementing the provisions of this agreement.
2. ____________ program staff will assist the __________ High School with continuation of the ______ program.

Services provided by ____________ High School:

1. a __________ instructor will be designated and responsible for implementing the provisions of this agreement.
2. maintain a qualified __________ program as defined by Oregon Department of Education program standards.
3. inform and advise students about tech prep credit available through successful completion of the _________ curriculum.
4. submit necessary student tech prep registration materials and transcripting fees as required by MHCC Admissions and Records office to record earned tech prep credit.

Both parties are obligated to meet to review this agreement annually. The agreement shall remain in effect until there is mutual agreement to terminate or until terminated by either party with written notice of cancellation. Such termination will become effective at the end of the term in which the cancellation occurs.

Permission to reprint material obtained from the Tech Prep Consortium Director, Mt. Hood Community College, OR.

Tech Prep Articulation Agreement Addendum (OR)

Between

Mt. Hood Community College

And

______________ High School

Course Name

The following __________________ High School course(s) have been approved as equivalent to the listed Mt. Hood Community College course, as taught by the listed instructor:

MHCC		__________ High School		
Course Number	Course Name	Course Name	Instructor	Course Length

MHCC credit will be awarded to high school students upon successful completion of MHCC approved high school course(s) listed above with at least a "B" final grade and recommendation of the high school instructor.

________________________________ ________________________
High School Principal or Designee Date

________________________________ ________________________
MHCC Divisional Representative Date

________________________________ ________________________
MHREC Regional Coordinator Date

Permission to reprint material obtained from the Tech Prep Consortium Director, Mt. Hood Community College, OR.

Secondary Membership Administrative Agreement (MT)

Tech Prep Consortium

INTENT

This agreement establishes membership in the ________________________________ Tech Prep Consortium and affirms the clear intention of implementing and promoting Tech Prep efforts in our District. Participating educational entities include ____ as the lead postsecondary institution and the high school represented on this agreement. ____, a member of the consortium, will be responsible for the fiscal management of the Tech Prep program. This cooperative endeavor will provide focused and respected learning opportunities that link secondary and postsecondary curricula in order to eliminate duplication and provide students a progressive path of education and training leading to entry and success in the rapidly expanding range of technical occupations which require postsecondary technical education and preparation up to the Associate Degree or Certificate level.

The program concept and philosophy envisioned for Tech Prep in Montana is described in the Definition which follows. Continuing development and implementation of the Tech Prep initiative will be accomplished through objectives affirmed by the Consortium's Tech Prep Leadership Team or Advisory Panel.

DEFINITION

Montana Tech Prep coordinates secondary and postsecondary programs to ensure all students the opportunity to effectively prepare for ongoing learning and the changing workplace. It facilitates smooth transitions for students pursuing postsecondary options leading to the completion of an associate degree, certificate, or apprentice program while meeting high academic and technical standards. Montana Tech Prep systems currently focus on:

- Articulation Agreements
- Career planning and guidance
- Professional development of faculty and staff
- Program and curriculum development
- Cooperation with community, business, and industry
- Technical preparation in a minimum of one career field
- Outreach and public awareness

MISSION STATEMENT

The mission of the Technical Preparation (Tech Prep) Program is to assure that all students acquire the academic and technical skills and knowledge necessary to be prepared for life-long learning and employment in the technology oriented society of the future.

STATEMENT OF AGREEMENT AND COMMITMENT TO REPORT

The Board of Trustees of ____ recognizes the value of
(School District)
two-year alternatives and postsecondary technical education as well as the need to help students make a smooth transition from the secondary to the postsecondary level without unnecessary delay or duplication.

We support the pursuit, maintenance, and refinement of articulation agreements that will reduce duplication between secondary and postsecondary courses and will promote students' progressive achievement of specific competencies in programs that lead to employment in vocational and technical fields, including business, health, and mechanical/industrial/practical arts or trades. We understand that the agreements reached through this effort relate to programs of study leading to associate degrees or certificates and that students meeting conditions of these agreements are eligible for Tech Prep credit at participating colleges.

The Board of Trustees declares its desire and intent to participate as an active member of this Tech Prep Consortium. We encourage the administration and faculty at the District's high school(s) to work with the Consortium to establish and support articulated Tech programs and related student services.

In compliance with reporting requirements that substantiate meaningful use of Perkins federal funds, document benefits extended to special populations, and assist in the preparation of Montana's annual report to the U.S. Department of Education, high school and District staff will provide requested data about the numbers and characteristics of students being served by Tech Prep programs and services.

Chairman of the Board of Trustees or Superintendent of Schools	District	Date
Principal	High School	Date

Permission to reprint material obtained from the Montana Tech Prep Coordinator, MT.

Postsecondary Membership Administrative Agreement (MT)

Tech Prep Consortium

INTENT

This agreement establishes membership in the ____________ Tech Prep Consortium and affirms the clear intention of implementing and promoting Tech Prep efforts in our District. Participating educational entities include ______________________ as the lead postsecondary institution and the high school represented on this agreement. ______________________, a member of the consortium, will be responsible for the fiscal management of the Tech Prep program. This cooperative endeavor will provide focused and respected learning opportunities that link secondary and postsecondary curricula in order to eliminate duplication and provide students a progressive path of education and training leading to entry and success in the rapidly expanding range of technical occupations which require postsecondary technical education and preparation up to the Associate Degree or Certificate level.

The program concept and philosophy envisioned for Tech Prep in Montana is described in the Definition which follows. Continuing development and implementation of the Tech Prep initiative will be accomplished through objectives affirmed by the Consortium's Tech Prep Leadership Team or Advisory Panel.

DEFINITION

Montana Tech Prep coordinates secondary and postsecondary programs to ensure all students the opportunity to effectively prepare for ongoing learning and the changing workplace. It facilitates smooth transitions for students pursuing postsecondary options leading to the completion of an associate degree, certificate, or apprentice program while meeting high academic and technical standards. Montana Tech Prep systems currently focus on:

- Articulation agreements
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- Professional development of faculty and staff
- Program and curriculum development
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- Technical preparation in a minimum of one career field
- Outreach and public awareness

MISSION STATEMENT

The mission of the Technical Preparation (Tech Prep) Program is to assure that all students acquire the academic and technical skills and knowledge necessary to be prepared for life-long learning and employment in the technology oriented society of the future.

STATEMENT OF AGREEMENT AND COMMITMENT TO REPORT

______________________________ recognizes the value of two-year alternatives and postsecondary technical
(College or Post-secondary Institution)
education as well as the need to help students make a smooth transition from the secondary to the postsecondary level without unnecessary delay or duplication.

This postsecondary institution supports the pursuit, maintenance, and refinement of articulation agreements that will reduce duplication between secondary and postsecondary courses and will promote students' progressive achievement of specific competencies in programs that lead to employment in vocational and technical fields, including business, health, and mechanical/industrial/practical arts or trades. It is understood that the agreements reached through this effort relate to programs of study leading to associate degrees or certificates and that students meeting conditions of these agreements are eligible for Tech Prep credit at the participating colleges.

I affirm the desire and intent of this college to participate as an active member of this Tech Prep Consortium. I encourage the college's administration and faculty to work with the Consortium to establish and support articulated Tech Prep programs and related student services.

In compliance with reporting requirements that substantiate meaningful use of Perkins federal funds, document benefits extended to special populations, and assist in the preparation of Montana's annual report to the U.S. Department of Education, staff from this college or institution will provide requested data about the numbers and characteristics of students being served by Tech Prep programs and services.

______________________	______________________	__________
Chief Executive Officer	College or Institution	Date

Permission to reprint material obtained from the Montana Tech Prep Coordinator, MT.

APPENDIX E
Tech Prep Consortia Annual Report (FL)

I. General Information

Directions: Complete the following information about the consortium.

Consortium Fiscal Agent: ____________________

Community College: ____________________

School District(s): ____________________

____

Schools: ____________________

____

Report Contact: ____________________ E-mail: ____________________

Address: ____________________

Title: ____________________ Phone: ____________________ Fax: ____________________

II. Status of Required Tech Prep Components

Directions: Please provide a brief response to the following three questions for each of the following Tech Prep Components: (1) Administration and Organization; (2) Articulation Agreements; (3) Business, Industry and Community Involvement; (4) Consortium Level Evaluation; (5) Curriculum Development/Programs of Study; (6) Promotions/Marketing; and (7) Staff Development. Additional information on another component, Impact on Students, is requested in Section III.

1. What have been your significant activities/successes in each component area? What strategies or approaches have proven to be beneficial?
2. What barriers have you encountered in each component and how have you addressed them?
3. What are your current technical assistance needs as related to each component?

III. Impact on Students

Directions: The following items 1-16 address your consortium's impact on students. Please answer the following questions and complete the data tables.

1. The state of Florida's definition of a Tech Prep Student is:

A student enrolled in an articulated, sequential program of study, * at grade level or above by grade eleven in mathematics, science, and communication, including a technical component, which leads to a minimum of a two-year post-secondary certificate or degree, and/or apprenticeship program.
Enrolled in level 2 or above courses.

Does your consortium use this definition?

Yes_____ No_____ : Our definition is :

2. Did you implement the Tech Prep Participant data element in your school district's Management Information System (MIS) for Tech Prep students for the 1998-99 academic year?

___Yes ____ No Please explain:

3. The table below requests a breakdown of Tech Prep students by grade level, gender, ethnicity, and special population. Please provide the demographic information to complete the following table:

DEMOGRAPHIC CHARACTERISTICS OF TECH PREP STUDENTS FOR 1998-1999												
	Grade 9		Grade 10		Grade 11		Grade 12		Grade 13		Grade 14	
	No.	% of total	No.	% of total	No.	% of total	No.	% of total	No.	% of total	No.	% of total
TOTAL												
Gender												
Male												
Female												
Ethnicity												
White												
Black												
Hispanic												
Asian												
Native-American												
Other												
Special Population*												
ESE students												

*Please provide definition of special population students used by your consortium.

4. The table below requests a breakdown of the general population of the consortium that is eligible to participate in Tech Prep. Answer the following questions and provide the information to complete the following table:

- How do you define an eligible student?

DEMOGRAPHIC CHARACTERISTICS OF THE GENERAL POPULATION FOR 1998-1999												
	Grade 9		Grade 10		Grade 11		Grade 12		Grade 13		Grade 14	
	No.	% of total	No.	% of total	No.	% of total	No.	% of total	No.	% of total	No.	% of total
TOTAL												
Gender												
Male												
Female												
Ethnicity												
White												
Black												
Hispanic												
Asian												
Native-American												
Other												
Special Population*												
ESE students												

*The definition of special population should be the same as the definition for the table in number 3.

5. Review the data above. If there are areas that significantly differ from the demographic information in number 3, what might be the cause(s) for these differences?

6. Please check (✓) those services provided at each grade level to assist students in the selection of and/or preparation for participation in appropriate Tech Prep programs of study:

Services Provided								
	Grade 7	Grade 8	Grade 9	Grade 10	Grade 11	Grade 12	Grade 13	Grade 14
Career Guidance/Counseling								
Career/Occupational Assessment/Testing								
Career Exploration Activities								

7. Check (✓) the student assessment measures other that your consortium is using or plans to use:

Tech Prep Outcomes		
Currently Using	Planning to Use	
		Student enrollment
		Attendance
		Graduation rates
		Technical competency attainment
		Student attitudes/satisfaction
		Employer feedback/satisfaction
		Program of study continuation rates
		Program of study completion rates
		Academic gains
		Job placement
		Parental satisfaction
		Teacher Feedback
		Standardized assessment test(s) Please list:
		Other: (Please explain)
		Other: (Please explain)
		Other: (Please explain)

8. Do you have any evidence that Tech Prep students' performance in mathematics, science or communications has improved as a result of integrated instruction, contextual academics or other Tech Prep initiatives? ___Yes ___No

   If yes, please cite or attach documentation.

9. Have you assessed Tech Prep student perceptions of Tech Prep? ___Yes ___No

   If yes, please summarize findings and describe method(s) you used to assess: (attach instrument or survey form if used.)

10. Have you assessed Tech Prep student families' perceptions? ___ Yes ___No

    If yes, please summarize findings and describe methods(s) you used to assess (attach instrument or survey form if used.)

11. Please describe the strategies your consortium is using (will use) to place Tech Prep completers in above-minimum wage jobs related to their area of preparation.

12. What strategies does your consortium employ to help students develop the attitude that education is a lifelong activity and that graduation and employment are milestones rather than the end of their education?

13. Describe the major area(s) of impact that the implementation of Tech Prep is having within your consortium.

14. What issues need to be addressed from the state and/or local level to enhance the implementation of Tech Prep within your consortium?

15. Are Tech Prep students taking advantage of the developed articulation agreements that support your consortium's Tech Prep Programs of Study? If so, please give examples? If not, why?

    ____Yes ____No

16. Please provide the following information on formally signed articulation agreements and Tech Prep Programs of Study within your consortium.

    A. Number of formally signed articulation agreements________________________
    B. Number of Programs of Study that have been developed and supported by these articulation agreements____________________.
    C. Please provide a listing of the Program of Study titles that have been developed.

Estimate the number and percentage of Tech Prep students who have taken the following Courses in 1998-1999.

	# of TP Students	% Female	% Male
Applied Math I			
Applied Math II			
Algebra I			
Algebra II			
Geometry			
Applied Communications			
Applied Biology/Chemistry			
Chemistry (Lab)			
Biology (Lab)			
Principles of Technology I			
Principles of Technology II			
Physics			
Other grade level or above courses			

PLANNING, DEVELOPMENT, AND IMPLEMENTATION INDICATORS

For each of the following statements, please estimate, using the accompanying scale, the extent to which each suggested indicator is currently visible/evident within your consortium. For each statement, please add any other indicators that are relevant for your consortium.

0 = 0% 1 = 1% - 25% 2 = 26% - 50% 3 = 51% - 75% 4 = 76% - 100%

1. Higher career expectations have been established for Tech Prep students.

	Suggested Indicators:
0 1 2 3 4	a. Students perceive that higher expectations have been established for students enrolled in a Tech Prep program of study.
0 1 2 3 4	b. Teachers perceive that higher expectations have been established for students enrolled in a Tech Prep program of study.
0 1 2 3 4	c. Tech Prep students are taking higher level academic courses in mathematics, science, and communications than did general education students in previous years.
0 1 2 3 4	d. Teachers have positive views about students' ability to achieve higher expectations.
0 1 2 3 4	e. Vocational-technical teachers stress their mission of preparing students for employment and further education.
0 1 2 3 4	f. Academic teachers stress their mission of preparing students for employment and further education.
0 1 2 3 4	g. Participating schools in the consortium have a special admissions process to Tech Prep that makes students feel distinct.
0 1 2 3 4	h. Other: ____________________

0 = 0% 1 = 1% - 25% 2 = 26% - 50% 3 = 51% - 75% = 76% - 100%

2. Students are pursuing technical/academic studies required to complete a Tech Prep program of study at the secondary level that includes an appropriate number of credits in vocational-technical courses and an appropriate number of credits in career-related applied mathematics and science or other mathematics and science courses at or above grade level.

	Suggested Indicators:
0 1 2 3 4	a. More students take at least two mathematics and two science courses above basic or general courses.
0 1 2 3 4	b. Students report that their vocational-technical teachers are encouraging them to take appropriate mathematics and science courses.
0 1 2 3 4	c. Students report that their academic teachers are utilizing applied (active-learning) methodologies to teach mathematics, science, communications and technology courses in Tech Prep curricula.
0 1 2 3 4	d. Other: ____________________

0 = 0% 1 = 1% - 25% 2 = 26% - 50% 3 = 51% - 75% 4 = 76% - 100%

3. Vocational-technical courses have been revised to include the basic mathematics, science, and communications competencies that underlie each occupational field of study.

Suggested Indicators:

0 1 2 3 4 a. There is an increase in time and emphasis devoted to competency instruction.

0 1 2 3 4 b. Academic instructional materials have been developed/adopted by academic teachers to emphasize mathematics, science, and communications skills as they relate to occupational fields or clusters.

0 1 2 3 4 c. Vocational materials have been developed/adopted by vocational-technical teachers to emphasize mathematics, science, and communications skills as they relate to occupational fields or clusters.

0 1 2 3 4 d. Instructional strategies are being used that stress reading and writing in the technical field.

0 1 2 3 4 e. Other: ____________________

1 = 1% - 25% 2 = 26% - 50% 3 = 51% - 75% 4 = 76% - 100%

0 = 0%

4. Vocational-technical and academic teachers are working together to coordinate and integrate academic and vocational-technical education.

Suggested Indicators:

0 1 2 3 4 a. Increased number of joint planning sessions among vocational-technical and academic teachers.

0 1 2 3 4 b. Increased number of demonstrated integrated teaching activities among vocational-technical and academic teachers at the secondary level.

0 1 2 3 4 c. Increased number of demonstrated integrated teaching activities among vocational-technical and academic teachers at the postsecondary level.

0 1 2 3 4 d. Secondary and postsecondary teachers meet to coordinate curriculum development activities.

0 1 2 3 4 e. Other: ____________________

0 = 0% 1 = 1% - 25% 2 = 26% - 50% 3 = 51% - 75% 4 = 76% - 100%

5. Tech Prep students are being assisted through career assessment and counseling to develop a four-year (2+2) or six-year (4+2) educational plan that will lead to successful employment and/or further study.

Suggested Indicators:

0 1 2 3 4 a. Individualized educational plans for Tech Prep students are developed and used.

0 1 2 3 4 b. Individualized Tech Prep student educational plans reveal that students= programs of study match their perceived goals.

0 1 2 3 4 c. Individualized Tech Prep student educational plans reveal that students are taking a sequence of mathematics, science, and communications courses that is appropriate for their chosen occupational or technical field.

0 1 2 3 4 d. All students are given an aptitude and occupational and/or technical assessment test and are assisted in interpreting the results.

0 1 2 3 4 e. Counselors demonstrate an understanding of Tech Prep and are recruiting students.

0 1 2 3 4 f. Other: ____________________

0 = 0% 1 = 1% - 25% 2 = 26% - 50% 3 = 51% - 75% 4 = 76% - 100%

6. **At risk and special population Tech Prep students are identified and are provided services to prepare them to succeed in their academic and vocational-technical courses.**

Suggested Indicators:

0 1 2 3 4 a. Students indicate they receive special and extra help from mathematics, science, communications and vocational-technical teachers.

0 1 2 3 4 b. Minimum reading and mathematics achievement levels are established to identify students needing extra help.

0 1 2 3 4 c. Tech Prep admission process identifies students needing special help.

0 1 2 3 4 d. Individualized educational plans are on file for students with basic skills deficiencies.

0 1 2 3 4 e. Teachers and students verify coordination of vocational-technical, mathematics, science, and communications instruction for students with deficiencies.

0 1 2 3 4 f. Special instruction is provided to students with mathematics, science, or communications deficiencies.

0 1 2 3 4 g. Other: ____________________

0 = 0% 1 = 1% - 25% 2 = 26% - 50% 3 = 51% - 75% 4 = 76% - 100%

7. **Professional development to reinforce mathematics, science, and communications competencies as an integral part of vocational-technical instruction is provided to Vocational-Technical and Academic teachers.**

Suggested Indicators:

0 1 2 3 4 a. Recent staff development or college credit instruction has been provided in applied teaching strategies for mathematics, science, and communications skills underlying the vocational-technical field.

0 1 2 3 4 b. Curriculum and instructional plans and materials reflect mathematics, science, and communications competencies that underlie the vocational-technical field.

0 1 2 3 4 c. Classroom observation reveals that vocational-technical teachers teach and reinforce mathematics, science, and communications competencies that underlie their vocational-technical field.

0 1 2 3 4 d. Classroom observation reveals that academic teachers teach and reinforce academic competencies as they relate to appropriate occupational fields.

0 = 0% 1 = 1% - 25% 2 = 26% - 50% 3 = 51% - 75% 4 = 76% - 100%

0 1 2 3 4 e. Vocational-technical and academic faculty are given extended periods of time to learn from each other.

0 1 2 3 4 f. Vocational-technical and academic faculty share joint professional development activities.

0 1 2 3 4 g. Other: ______________________________

0 = 0% 1 = 1% - 25% 2 = 26% - 50% 3 = 51% - 75% 4 = 76% - 100%

8. Vocational-technical and academic teachers and guidance counselors receive staff development to help students learn mathematics, science and communications concepts through familiar, tangible, and direct experience related to students' occupational/ technical field of study.

Suggested Indicators:

0 1 2 3 4 a. Students and teachers perceive that more time is being devoted to applied teaching and more real-life examples are used to associate competencies with vocational-technical applications.

0 1 2 3 4 b. Vocational-technical and academic teachers have received recent staff development on applied instructional methods, effective teaching, and application of competencies.

0 1 2 3 4 c. Curriculum and instructional plans reflect applied teaching strategies.

0 1 2 3 4 d. Classroom observation reveals increased use of contextual teaching methods for students following a Tech Prep program of study.

0 1 2 3 4 e. Student handbooks and/or other student materials at the secondary and post-secondary level contain information on offered Tech Prep programs of study offered by the consortium.

0 = 0% 1 = 1% - 25% 2 = 26% - 50% 3 = 51% - 75% 4 = 76% - 100%

9. Students= successful completion of a Tech Prep program of study is followed by further study and/or placement in an above-minimum wage job in the field for which they have been prepared.

Suggested Indicators:

0 1 2 3 4 a. Regional occupational forecasts at the time the students enter Tech Prep indicate that above-minimum wage jobs in their field of study will be available.

0 1 2 3 4 b. Businesses and industries participate in the periodic review and updating of programs of study and curricula to ensure the occupational/technical material taught is relevant for the current job market.

0 1 2 3 4 c. Businesses and industries are actively sought to provide internships/ apprenticeships/mentors to students to give them experience in their field prior to placement.

0 1 2 3 4 d. Tech Prep completers are employed in jobs for which they were educated.

0 1 2 3 4 e. Tech Prep completers are satisfied with their jobs.

0 1 2 3 4 f. Employers of Tech Prep completers are satisfied with their job performance.

0 1 2 3 4 g. Tech Prep completers salaries are higher than minimum wage earnings.

0 1 2 3 4 h. Tech Prep completers exhibit the attitude that to be productive citizens in a competitive workforce they must continue to learn throughout their lives.

0 1 2 3 4 i. Tech Prep completers indicate they have been adequately prepared to continue their education by acquiring lifelong learning skills.

0 1 2 3 4 j. Other: ____

0 = 0% 1 = 1% - 25% 2 = 26% - 50% 3 = 51% - 75% 4 = 76% - 100%

V. TECH PREP BEST PRACTICES (Optional)

The demonstration and showcasing of statewide best practices was identified as one of the goals and recommendations by the Millennium Task Force in their report to the Commissioner of Education. Your assistance is requested in identifying Best Practices in curriculum and instruction, guidance and counseling, and business partnerships for your consortium. Using the templates, please solicit Best Practices from the administrators, teachers and guidance staff in your consortium. Selected Best Practices will be input on the web site. There are samples of Best Practices located on the Institute for Workforce Competitiveness' (IWC) web site: www.fiu.edu/~xiwc. The templates provided are also located on the IWC's web site. Upon review, the best practices submitted will also be available on the Internet.

Thank you for completing this report. Please return the completed annual report, either by mail or e-mail, to:

Institute for Workforce Competitiveness
Florida International University
University Park, EAS – 2613
Miami, Florida 33199
byrdj@ fiu.edu

Permission to reprint material obtained from F. Hammons, Associate Professor, Florida International University, FL.

APPENDIX F
Tech Prep Evaluation System for Illinois (TPESI) (IL)

School Assessment Form

Name of School Visited: ______________________________

Name of Team Member: ______________________________

Date of Visit: ______________________________

This school assessment form will be used by each team member to rate his/her assessment of the implementation stage and quality of the essential and supporting elements of Tech Prep.

Scales:
- Implementation Stage: 1- Not Begun, 2-Planning, 3-Development, and 4-Implementation.
- Quality: 1-Poor, 2-Fair, 3-Good, and 4-Excellent.

Elements	**Implementation Stage**				**Quality**			
	1	2	3	4	1	2	3	4
Example: E4. Inservices for Teachers			X					X
E1. 2+2 Program								
E2. Articulation								
E3. Curriculum Development								
E4. Inservice for Teachers								
E5. Inservice for Counselors								
E6. Equal Access for Special Pops								
E7. Preparatory Services								
E8. Work-based Learning								
S1. Leadership, Commitment, and Administrative Support								
S2. Parental Support								
S3. Business/Labor/Community Involvement								
S4. Transition of Students to Postsecondary Education								
S5. Identification and Accurate Reporting of Tech Prep Students								
S6. Secondary and Postsecondary Collaboration								
S7. Evaluation and Program Improvement								
S8. Integrated, Contextual Instruction Strategies								

Consortium Assessment Form

Title of the Consortium: ____________________

Name of Team Member: ____________________

Date of Site Visit: ____________________

This consortium assessment form is a tool for assessing essential and supporting elements of Tech Prep for the overall consortium. The consortium assessment form is composed of two sections: (1) essential elements, and (2) supporting elements. Based on individual team member's assessment of the consortium overall, the team leader should provide the team's overall assessment.

TECH PREP ELEMENTS

Please assess the stage of implementation and quality of each element following the directions below.

Stage of Implementation: Use the following scale to indicate the stage of implementation for each essential element of Tech Prep:

1=Not begun	This stage indicates the element has not yet begun to be implemented.
2=Planning	This stage includes goal setting, orientation, the formation of committees and teams, and the development of plans related to a Tech Prep element.
3=Development	This stage involves designing, creating, and field testing a specific element.
4=Implementation	This stage occurs when plans, activities, and/or products associated with a specific element are being carried out.

Rationale: Substantiate your rating on the implementation of each element.

Quality of Elements: Use the following scale to indicate the quality of each element and provide a rationale for your assessment.

1. Poor	**2. Fair**	**3. Good**	**4. Excellent**

Rationale: Substantiate your rating on the quality of each element.

Additional Comments and Recommendations: Provide additional comments on the element such as an exemplary case and recommendations for program improvement.

Essential Element #1: 2 + 2 Program That Leads to Associate Degree – All Tech Prep programs must have a sequence of appropriate advanced academic and technical courses.

Stage of Implementation: Provide your own assessment of the implementation stage of the element. (Please refer to the scale guidelines on page 1.)

1. Not Begun _________ 2. Planning _________ 3. Development _________ 4. Implementation _________

Provide a rationale for your assessment of implementation: ______________________________

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Quality of Element: Provide your own assessment of the quality of the element.

1. Poor _________ 2. Fair _________ 3. Good _________ 4. Excellent _________

Provide a rationale for your assessment of quality: ______________________________

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Additional Comments and Recommendations:

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Essential Element #1: 2+2 Program That Leads to Associate Degree

Dimension/Description	Program Outcome/Measures	Student Outcome/Measures
Comprehensiveness within the program – Tech Prep programs and courses reflect all aspects of industry.	# and % all Tech Prep of programs and courses reflecting all aspects of industry	Tech Prep student perceptions of the comprehensiveness of the programs
Relevance to business area industry demands – Tech Prep programs and courses address competencies and standards required by business and industry. Tech Prep programs target career areas that are in greatest demand in the region.	# and % all Tech Pep of programs matched with area business/industry	# and % of students who found jobs related to their Tech prep programs
Rigorous coursework and advanced skills – Tech Prep programs and courses demand advanced academic and technical skills to be accepted by postsecondary institutions. Tech Prep programs include courses using advanced technology.	# and % all of Tech Prep programs offering high-wage jobs # and % of all Tech Prep program leading to advanced placement and 4-year colleges	# and % of Tech Prep graduates getting high- wage jobs # and % of high school Tech Prep students matriculated 2-year/ 4-year colleges # and % of Tech Prep students taking at least 3 years each of math and science # and % of Tech Prep students in high school and college taking advanced courses
Appropriate sequential arrangement – Tech Prep programs and courses have sequential alignment between secondary and postsecondary education, resulting in seamless 2+2 paths for Tech Prep students.	# and % of all Tech Prep programs offering complete sequential 2+2 paths	# and % of Tech Prep students taking remedial classes and credits when entering college
Flexibility of Tech Prep programs to the local educational context – Tech Prep programs are arranged to encompass various models including 2+2, 2+4, 2+2+2 to adapt to local situations.	# and % of all Tech Prep programs that offer 2+2, 2+4, and other models	# and % of Tech Prep students who participate in each of the models

Essential Element #2: Articulation – All Tech Prep programs must be carried out under an articulation agreement(s) between secondary and postsecondary institutions and a process must be in place to follow students from secondary Tech Prep programs to postsecondary Tech Prep programs.

Stage of Implementation: Provide your own assessment of the implementation stage of the element. (Please refer to the scale guidelines on page 1.)

1. Not Begun ________ 2. Planning ________ 3. Development ________ 4. Implementation ________

Provide a rationale for your assessment of implementation: ______________________________

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Quality of Element: Provide your own assessment of the quality of the element.

1. Poor ________ 2. Fair ________ 3. Good ________ 4. Excellent ________

Provide a rationale for your assessment of quality: ______________________________

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Additional Comments and Recommendations:

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Essential Element #2: Articulation

Dimension/Description	Program Outcome/Measures	Student Outcome/Measures
Comprehensiveness of articulation agreements – Articulation agreements cover academic and technical courses.	# and % of articulated programs/courses of total program courses	# and % of Tech Prep students taking articulated academic and technical programs (courses)
Timeliness/on-going update – Articulation agreements are updated and documented on an on-going basis to reflect changes in program sequences between secondary and postsecondary education.	Frequency of articulation agreement updates, whether articulation agreements reflect current practice	# and % of Tech Prep students have access to up-to-date articulation agreements
Advancement – Articulation agreements are available in advanced academic and technical courses, encompassing advanced placement and dual credit courses, resulting in students' smooth transition to postsecondary education.	# and % of all agreements that contain advanced courses	# and % of Tech Prep students taking advanced courses # and % of Tech Prep students entering postsecondary institutions through articulation agreement
Widespread information sharing – Information about the contents of articulation agreements, including dual-credit, is well communicated within the consortium.	# and % of all faculty, teacher, parents, students who are aware of articulation agreements Student perception about information about articulation	Tech Prep students know about articulation program/course options (student awareness)

Essential Element # 3: Curriculum Development – All Tech Prep program curricula must be aligned with the Illinois Learning Standards, Occupational Skill Standards (where available), Workplace Skills and Career Development Competencies. This curriculum must include applied methodology that integrates academic and technical coursework.

Stage of Implementation: Provide your own assessment of the implementation stage of the element. (Please refer to the scale guidelines on page 1.)

1. Not Begun _________ 2. Planning _________ 3. Development _________ 4. Implementation _________

Provide a rationale for your assessment of implementation: ________________________________

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Quality of Element: Provide your own assessment of the quality of the element.

1. Poor _________ 2. Fair _________ 3. Good _________ 4. Excellent _________

Provide a rationale for your assessment of quality: ________________________________

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Additional Comments and Recommendations:

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Essential Element #3: Curriculum Development

Dimension/Description	Program Outcome/Measures	Student Outcome/Measures
Curriculum alignment with standards – Tech Prep programs and courses are aligned with Illinois Learning Standards and incorporate employability skills and occupational skill standards.	# of courses that reflect ILS, OSL, WS, and CDC	# and % of Tech Prep students who took the courses, and their performance on academic, occupational and employability skills assessments # and % of Tech Prep students who meet the Illinois Learning Standards
Curriculum integration between technical and academic education – Academic courses are being changed to incorporate career related contents and technical courses, and incorporate contents demanding more advanced academic skills. Curriculum integration involves a broad range of skills including academic, technical skills and career-related information.	# of academic and technical courses that incorporate integrated curriculum and instructional strategies	# and % of all students receiving classes with career-related curriculum # and % of all Tech Prep students receiving an integrated curriculum Tech Prep student performance on the ISAT exam
Curriculum change at the both secondary and postsecondary levels – Curriculum development is actively done at secondary and postsecondary schools.	# of courses that have been developed as a result of Tech Prep	College/HS student perceptions of the curriculum # and % of Tech Prep students who advanced to Community College Tech Prep programs
Applicability of classroom instruction to the work place – Curriculum development incorporates hands-on and real world examples for students to apply what they learn in classroom to the actual work setting. Classroom instructions employ diverse delivery methods to enhance students' contextual learning.	# and % of all Tech Prep classes that use hands-on approaches	Student perception of the applicability and relevance of courses
Use of technology – Curriculum includes the use of technology in the delivery of instruction (i.e., distance education, websites).	# and % of all Tech Prep classes that use technology	Student familiarity with and perceptions of technology applications used in Tech Prep

Essential Element # 4: Inservice Training for Teachers – All Tech Prep projects must include inservice training for secondary and postsecondary instructors.

Stage of Implementation: Provide your own assessment of the implementation stage of the element. (Please refer to the scale guidelines on page 1.)

1. Not Begun ________ 2. Planning ________ 3. Development ________ 4. Implementation ________

Provide a rationale for your assessment of implementation: ________________

Quality of Element: Provide your own assessment of the quality of the element.

1. Poor ________ 2. Fair ________ 3. Good ________ 4. Excellent ________

Provide a rationale for your assessment of quality: ________________

Additional Comments and Recommendations:

Essential Element #4: Inservice Training for Teachers

Dimension/Description	Program Outcome/Measures	Student Outcome/Measures
Balance of content – Content of professional development for teacher covers a sufficient range of knowledge, skills, and abilities related to Tech Prep (i.e., activity doesn't try to cover too many topics/materials). Content is appropriate for secondary, postsecondary, academic and technical participants.	Breadth of topics Depth of topics # and % of all secondary and postsecondary faculty participating participation # and % of all academic and technical faculty participating	
Satisfaction with activity – Type of activity is appropriate to need. Design, organization, and delivery of activity appropriate for content covered.	Clear objectives # and % of participants who show a high level of satisfaction related to delivery format, methods, organization, etc. Allows for collaboration and dialogue	
Relevance of topic to practice – Content of activity is aligned with individual participant needs. Current and up-to-date topics covered in activity.	# and % of participants who show a high level of satisfaction related to delivery format, methods, organization, etc. Level of satisfaction related to content Applicability of content to practice	# and % of Tech Prep students who show a high level of satisfaction with changes in curriculum # and % of Tech Prep students who show a high level of satisfaction with changes in instructional strategies # and % of Tech Prep students who show a high level of knowledge of career clusters
Accessibility of activities – Professional development activities are accessible to participants.	Frequency of activities Location of activities	

Essential Element # 5: Inservice Training for Counselors – All Tech Prep projects must include inservice training for counselors.

Stage of Implementation: Provide your own assessment of the implementation stage of the element. (Please refer to the scale guidelines on page 1.)

1. Not Begun _________ 2. Planning _________ 3. Development _________ 4. Implementation _________

Provide a rationale for your assessment of implementation: ____________________

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Quality of Element: Provide your own assessment of the quality of the element.

1. Poor _________ 2. Fair _________ 3. Good _________ 4. Excellent _________

Provide a rationale for your assessment of quality: ____________________

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Additional Comments and Recommendations:

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Essential Element #5: Inservice Training for Counselors

Dimension/Description	Program Outcome/Measures	Student Outcome/Measures
Balance of content – Content of professional development for counselors covers a sufficient range of knowledge, skills, and abilities related to Tech Prep (i.e., activity doesn't try to cover too many topics/materials). Content is appropriate for secondary, postsecondary, academic and technical participants.	Breadth of topics Depth of topics # and % of all secondary and postsecondary faculty participating participation Academic # and % of all technical faculty participating	
Satisfaction with activity – Type of activity is appropriate to need. Design, organization, and delivery of activity appropriate for content covered.	Clear objectives # and % of participants who show a high level of satisfaction related to delivery format, methods, organization, etc. Allows for collaboration and dialogue	
Relevance of topic to practice – Content of activity is aligned with individual participant needs. Current and up-to-date topics covered in activity.	# and % of participants who show a high level of satisfaction related to delivery format, methods, organization, etc. Level of satisfaction related to content Applicability of content to practice	# and % of Tech Prep students who show a high level of satisfaction with changes in curriculum # and % of Tech Prep students who show a high level of satisfaction with changes in instructional strategies # and % of Tech Prep students who show a high level of knowledge of career clusters
Accessibility of activities – Professional development activities are accessible to participants.	Frequency of activities Location of activities	

Essential Element # 6: Equal Access for Special Populations – All Tech Prep projects must provide equal access to the full range of Tech Prep education programs to individuals who are members of special populations

Stage of Implementation: Provide your own assessment of the implementation stage of the element. (Please refer to the scale guidelines on page 1.)

1. Not Begun ________ 2. Planning ________ 3. Development ________ 4. Implementation ________

Provide a rationale for your assessment of implementation: ________________________________

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Quality of Element: Provide your own assessment of the quality of the element.

1. Poor ________ 2. Fair ________ 3. Good ________ 4. Excellent ________

Provide a rationale for your assessment of quality: ________________________________

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Additional Comments and Recommendations:

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Essential Element #6: Equal Access for Special Populations

Dimension/Description	Program Outcome/Measures	Student Outcome/Measures
Equal access – All Tech Prep programs provide equal access for students in special populations.	Existence of equal access policy within the consortium and each school and college.	# and % of special population students in the programs # and % of Tech Prep students with special needs who report no exclusion from Tech Prep activities
Student satisfaction – Students with special needs report inclusion in Tech Prep activities and believe their needs were accommodated.		Students with special needs report no exclusion from Tech Prep activities
Existence of accommodations and support services – Students with special needs are provided with adaptations, accommodations and other services that facilitate their successful participation in Tech Prep activities.	Number and type of accommodations, adaptations and supports provide with in the consortium and each school and college	# and % of all students who use the system and services

Essential Element # 7: Preparatory Services (including career guidance) – All Tech Prep projects must provide preparatory services that assist all populations to participate in Tech Prep education programs. Preparatory services may take the form of career development and guidance activities and recruitment. Tech Prep will include activities to ensure that Tech Prep students have an opportunity to become aware of the full range of career options, will be able to make an informed career choices, and will be provided with opportunities to select a career focus. Individualized Career Plans (ICPs) are required in order to be a Tech Prep student

Stage of Implementation: Provide your own assessment of the implementation stage of the element. (Please refer to the scale guidelines on page 1.)

1. Not Begun ________ 2. Planning ________ 3. Development ________ 4. Implementation ________

Provide a rationale for your assessment of implementation: ____________________

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Quality of Element: Provide your own assessment of the quality of the element.

1. Poor ________ 2. Fair ________ 3. Good ________ 4. Excellent ________

Provide a rationale for your assessment of quality: ____________________

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Additional Comments and Recommendations:

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Essential Element #7: Preparatory Services

Dimension/Description	Program Outcome/Measures	Student Outcome/Measures
Reflecting the needs of students – Preparatory services and career guidance reflect the needs and development of the students and tailors its methods to the students' needs and stage of development.	Number and types of methods used	Student acquisition of information about preparatory service Student satisfaction with preparatory services
Diverse exposure to career and educational options – Preparatory services employ diverse methods and career exploration experiences to expose students to many different career areas.	Number and types of methods used regarding: • Various career exploration experiences • Introduction to different career areas •	Student acquisition of information about preparatory service. Student satisfaction with preparatory services
Effectiveness of recruitment strategies – Students are aware of various preparatory services and of various Tech Prep activities and courses.	Different types of recruitment strategies	# and % of all students who are aware and satisfied with Tech Prep options
Systematic developmental preparatory services – An organized system of Tech Prep services is offered (e.g. checklists, portfolios) tailoring its approaches to assessment, monitoring students' progress, career and academic guidance and recruitment according to students' grade level.	The structure of preparatory service delivery facilities advancement	# and % of Tech Prep students reporting use of portfolios, assessments, ICP's, regularly scheduled meetings with teacher, etc
Effective counseling and career development/decision making – Counseling helps students in selecting courses and making career decisions.		Student perception about the effectiveness of counseling.

Essential Element # 8: Work-Based Learning Experience – All Tech Prep programs will include a work-based learning experience for students. Work-based learning may include career development experiences or skill development experiences. (Includes providing quality work-based learning for Tech Prep students, defined in the FY01 guidelines as "activities to improve methods of coordinating work-based learning with school-based learning. These activities should include curriculum coordination using Occupation Skill Standards, school-based mentor selection and training and work-based mentor selection and training.")

Stage of Implementation: Provide your own assessment of the implementation stage of the element. (Please refer to the scale guidelines on page 1.)

1. Not Begun ________ 2. Planning ________ 3. Development ________ 4. Implementation ________

Provide a rationale for your assessment of implementation: ____________________

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Quality of Element: Provide your own assessment of the quality of the element.

1. Poor ________ 2. Fair ________ 3. Good ________ 4. Excellent ________

Provide a rationale for your assessment of quality: ____________________

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Additional Comments and Recommendations:

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Essential Element #8: Work-Based Learning Experience

Dimension/Description	Program Outcome/Measures	Student Outcome/Measures
School-based learning and work-based learning (WBL) experiences connected – The WBL experiences are closely connected to the students' coursework and pertinent to the contents of school curriculum.	Number of WBL sites associated with each Tech Prep program	# and % of Tech Prep students participating in WBL • By students' own selection, and • Through school coordination
Student satisfaction – Students believe that the WBL experiences enhance their learning and are helpful in making career choices.		Student satisfaction with WBL Student perception regarding usefulness of WBL Student achievement associated WBL in terms of: • Academic achievement • Employment • Technical achievement
Business/Industry/Labor support (B/I/Ls) – Area B/I/Ls provide opportunities for WBL experiences, facilitate learning opportunities, and provide financial support.	Number of B/I/Ls that provided WBL to students Number of mentors within B/I/Ls who are actively engaged. Evidence of financial support	Number of students who received awards and support from B/I/Ls. # and % of Tech Prep students who have worksite mentors
Variety of WBL experiences – The WBL are provided in diverse forms such as job shadowing, internships and apprenticeships and are offered in different career clusters.	Different types of WBL experiences associated with Tech Prep programs	# and % of Tech Prep students who have different types of WBL experiences
Student motivation for learning – The WBL experiences motivate students to work harder in school and to have greater interest n their studies.		# and % of Tech Prep students who say that they are motivated by participating in WBL. Student achievement in coursework (GPA)

Supporting Element #1: Leadership, Organization and Administrative Support – Local administrators are actively engaged in ongoing implementation and improvement of the local Tech Prep initiative. Faculty, staff, and administrators are committed to and actively engaged in facilitating the continued growth, development and evolution for the Tech Prep initiative

Stage of Implementation: Provide your own assessment of the implementation stage of the element. (Please refer to the scale guidelines on page 1.)

1. Not Begun ________ 2. Planning ________ 3. Development ________ 4. Implementation ________

Provide a rationale for your assessment of implementation: ________________________________

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Quality of Element: Provide your own assessment of the quality of the element.

1. Poor ________ 2. Fair ________ 3. Good ________ 4. Excellent ________

Provide a rationale for your assessment of quality: ________________________________

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Additional Comments and Recommendations:

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Supporting Element #1: Leadership, Organization and Administrative Support

Dimension/Description	Program Outcome/Measures	Student Outcome/Measures
Participation and support – Administrators participate in Tech Prep actively and show leadership in implementing Tech prep.	# and % of administrators who participated in Tech Prep meeting. Financial resources dedicated to Tech Prep key leaders.	Student awareness of leadership support for Tech Prep. Student awareness of administrative, counselor, and parental support for Tech Prep.
Create faculty/parental buy-in – Through the administrative leadership, faculty, teacher and parents show buy-in for Tech Prep and participate actively in it.	# and % of faculty who participated in Tech Prep meeting, Professional Development, Curriculum Development and other Tech Prep events.	Students perceive a high level of support for Tech Prep within their schools and colleges.
Supports collaboration among key people – Key personnel including the consortium coordinator, school Tech Prep team leaders, EFE directors, etc. maintain favorable working relationships in implementing Tech Prep, including sharing resources to maximize Tech Prep implementation.	Level of collaboration between secondary and postsecondary administrators, Tech Prep coordinators and other key personnel, perceived by administrators, faculty, and counselors to be high.	Students show a high level of awareness of collaborations to support Tech Prep programs and activities

Supporting Element #2: Parental Support – All Tech Prep consortia must provide information and services to parents for them to understand every aspect of Tech Prep.

Stage of Implementation: Provide your own assessment of the implementation stage of the element. (Please refer to the scale guidelines on page 1.)

1. Not Begun _________ 2. Planning _________ 3. Development _________ 4. Implementation _________

Provide a rationale for your assessment of implementation: ________________________________

Quality of Element: Provide your own assessment of the quality of the element.

1. Poor _________ 2. Fair _________ 3. Good _________ 4. Excellent _________

Provide a rationale for your assessment of quality: ________________________________

Additional Comments and Recommendations:

Supporting Element #2: Parental Support

Dimension/Description	Program Outcome/Measures	Student Outcome/Measures
Parental awareness of Tech Prep – Parents are well aware of Tech Prep concept and Tech Prep program options for their children. Parents are actively involved in conversations about students' progress.	# and % of parents who are aware of Tech Prep	Students are highly informed Student satisfaction with the program is high
Parental involvement in Tech Prep activities – Parents are actively involved in Tech Prep activities, including professional development and career guidance and counseling for their children.	# and % of parents who are involved in various activities	Students are highly informed. Student satisfaction with the program is high
Parent attitude toward Tech Prep – Parents in the consortium show positive attitudes toward Tech Prep and support Tech Prep programs of study and related activities.	Faculty perceive that of parental support for Tech Prep is strong	Students are highly informed. Student satisfaction with the program is high

Supporting Element #3: Business/Labor/Community Involvement – Tech Prep program should include business, industry, labor, and community involvement, encompassing school- and work-based learning activities and informing curriculum change.

Stage of Implementation: Provide your own assessment of the implementation stage of the element. (Please refer to the scale guidelines on page 1.)

1. Not Begun _________ 2. Planning _________ 3. Development _________ 4. Implementation _________

Provide a rationale for your assessment of implementation: ________________________________

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Quality of Element: Provide your own assessment of the quality of the element.

1. Poor _________ 2. Fair _________ 3. Good _________ 4. Excellent _________

Provide a rationale for your assessment of quality: ________________________________

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Additional Comments and Recommendations:

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Supporting Element #3: Business/Labor/Community Involvement

Dimension/Description	Program Outcome/Measures	Student Outcome/Measures
Extent of Business/Labor/Community (BLC) Involvement – BLC involvement is based on collaborative efforts, a high level of input, and the central role played by BLC in the consortium. In addition, the BLC involvement is comprehensive across programs and visionary in nature (i.e., anticipating and driving future skill needs of the workforce).	Visible ties with local employers BLC actively involved in driving necessary skill sets Established plans for review of necessary skills Financial Support provided	
Satisfaction of BLC – BLC take pride in participating. They view participation as a practical opportunity to recruit qualified students. Their expectations (as well as that of the consortium) are met regarding involvement.	Clear objectives regarding BLC involvement. Level of satisfaction related to caliber of students they receive, collaboration with secondary and postsecondary faculty, and their own perception of involvement in the community (i.e., they are satisfied with their efforts in "giving back to the community") View their involvement to be beneficial to students in the long-run	Students perceive that they are receiving real world; applicable experiences while in the program.
Relevance of BLC involvement – Involvement is program specific, centered around WBL experiences, and driven by labor market need for placing qualified graduates in the work place. In addition, BLC activities are aligned to all Tech Prep programs and the opportunities provided to students as well as faculty are current and up-to-date.	Number of established WBL programs for students and faculty to gain industry experience that are aligned to their program of study (e.g. number of WBL programs for each Tech Prep program). Curriculum supports skills necessary for industry	# and % of Tech Prep student who are involved in WBL experiences, job shadowing, etc related to their respective program areas Student satisfaction with their contact with BLC and the relevance of that contact
Accessibility – BLC encourage student, faculty, and administrator presence in their work places through established programs (e.g., WBL and professional development).	Frequency of activities (e.g., how often are students and faculty given access through such established programs?) Location of activities Participation rate	Students perceive they have access to practical and meaningful work experiences

Supporting Element #4: Transition of Students to Postsecondary Education – Tech Prep includes activities to support development and implementation of a transition system for Tech Prep students that will significantly increase the number of high school graduates who are transitioning to postsecondary technical programs immediately following high school without remediation.

Stage of Implementation: Provide your own assessment of the implementation stage of the element. (Please refer to the scale guidelines on page 1.)

1. Not Begun _________ 2. Planning _________ 3. Development _________ 4. Implementation _________

Provide a rationale for your assessment of implementation: ______________________________

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Quality of Element: Provide your own assessment of the quality of the element.

1. Poor _________ 2. Fair _________ 3. Good _________ 4. Excellent _________

Provide a rationale for your assessment of quality: ______________________________

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Additional Comments and Recommendations:

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Supporting Element #4: Transition of Students to Postsecondary Education

Dimension/Description	Program Outcome/Measures	Student Outcome/Measures
Provides skills necessary for postsecondary education – Tech Prep coursework, integrated instruction and WBL experiences provide the necessary skills to support a successful transition to postsecondary education.	Evidence of integrated SBL and WBL experiences Availability of advanced courses Coursework articulates toward college credit	# and % of Tech Prep students who take remedial courses after matriculation to community college # and % of Tech Prep students who are college ready. # and % of students who go on to postsecondary education
Facilitates students' aspirations for postsecondary education – Students are encouraged to continue their postsecondary education and are more focused on their career aspirations.		# and % of Tech Prep graduates who attend a 4-year postsecondary institutions Students report being more focused and clear about their aspirations
Availability of transition services – The consortium provides services to inform students of postsecondary options, career goals and majors, and academic skills and courses needed for a successful transition	Number of services available to students	# and % of Tech Prep students who use transition services
Student tracking system – A tracking system is in place that gathers data about the transition outcomes of their graduates.	Type of tracking system Use of the system by schools and consortium Evidence of a tracking system, e.g. follow-up data on graduates	
Facilitates students' confidence for their postsecondary education – Students are more likely to show confidence in pursuing postsecondary education.		# and % of Tech Prep students who show confidence

Supporting Element #5: Secondary/Postsecondary Collaboration – Tech Prep initiatives should include strong collaborative administrative, faculty, and curricular connections between secondary and postsecondary institutions. These efforts should include the community college providing leadership in the ongoing implementation of the local Tech Prep initiative.

Stage of Implementation: Provide your own assessment of the implementation stage of the element. (Please refer to the scale guidelines on page 1.)

1. Not Begun _________ 2. Planning _________ 3. Development _________ 4. Implementation _________

Provide a rationale for your assessment of implementation: ______________________________

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Quality of Element: Provide your own assessment of the quality of the element.

1. Poor _________ 2. Fair _________ 3. Good _________ 4. Excellent _________

Provide a rationale for your assessment of quality: ______________________________

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Additional Comments and Recommendations:

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Supporting Element #5: Secondary and Postsecondary Collaboration

Dimension/Description	Program Outcome/Measures	Student Outcome/Measures
Availability of joint participation – Program - program collaboration between secondary and postsecondary faculty. Collaboration provides opportunities to customize community needs, engage faculty and educators, and successfully transition students.	Dual credit opportunities Positive relationships between secondary and post-secondary institutions Established professional development/faculty exchanges programs Information and facilities sharing Existing annual meetings for curriculum review	# and % of Tech Prep students receiving dual credit (and who have option to receive dual credit)
Perceived satisfaction – Faculty, staff, and students perceive strong working relationships between secondary and postsecondary institutions through established roles, smooth student transitions, and resolutions of shared concerns	Strong ties between secondary and postsecondary faculty and staff	Student perceptions of smooth transition and relevance of program content between High School and Community College

Supporting Element #6: Identification and Accurate Reporting of Tech Prep Students – Tech Prep will include activities to improve methods of identifying and reporting Tech Prep students at the high school and postsecondary levels based upon the State's definition.

Stage of Implementation: Provide your own assessment of the implementation stage of the element. (Please refer to the scale guidelines on page 1.)

1. Not Begun ________ 2. Planning ________ 3. Development ________ 4. Implementation ________

Provide a rationale for your assessment of implementation: ________________________________

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Quality of Element: Provide your own assessment of the quality of the element.

1. Poor ________ 2. Fair ________ 3. Good ________ 4. Excellent ________

Provide a rationale for your assessment of quality: ________________________________

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Additional Comments and Recommendations:

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Supporting Element #6: Identification and Accurate Reporting of Tech Prep Students

Dimension/Description	Program Outcome/Measures	Student Outcome/Measures
Congruence of actual Tech Prep students with reported Tech Prep students – The counted and reported Tech Prep students are congruent with the actual Tech Prep students, according to state and local definition of Tech Prep programs of study.	Congruence between perceived and reported Tech Prep students.	# and % of all students participating in Tech Prep Enrollment trends over time
Clear and Agreed upon Definition of Tech Prep students – Various groups of personnel including administrators, faculty, teacher, students, parents and employers are clear about how Tech Prep is defined and who is considered Tech Prep students.	# and % of administrators, faculty, teacher, students who understand what Tech Prep is and who Tech Prep students are.	Students are able to identify themselves as participants in Tech Prep programs and activities
Reporting system – The consortium and schools within it have Tech Prep student reporting system and this system provide accurate Tech Prep student data. This system includes data base related Tech Prep courses or programs, students who take/took the courses, and other follow-up data from secondary to postsecondary to employment (including military) – same as student tracking system	Existence of reporting system	Students are able to identify themselves as participants in Tech Prep programs and activities

Supporting Element #7: Evaluation and Program Improvement – Tech Prep includes the systematic collection of information about the activities, characteristics, and outcomes of programs for use by specific people to reduce uncertainties, improve effectiveness, and make decisions with regard to what those programs are doing and affecting.

Stage of Implementation: Provide your own assessment of the implementation stage of the element. (Please refer to the scale guidelines on page 1.)

1. Not Begun _________ 2. Planning _________ 3. Development _________ 4. Implementation _________

Provide a rationale for your assessment of implementation: ______________________________

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Quality of Element: Provide your own assessment of the quality of the element.

1. Poor _________ 2. Fair _________ 3. Good _________ 4. Excellent _________

Provide a rationale for your assessment of quality: ______________________________

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Additional Comments and Recommendations:

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Supporting Element #7: Evaluation and Program Improvement

Dimension/Description	Program Outcome/Measures	Student Outcome/Measures
Comprehensiveness of methods – Evaluation system utilizes at least one qualitative and one quantitative method of data collection. Process relies on evaluation team.	# relevance of value qualitative methods # relevance of value quantitative methods Evaluation teams in place within consortium and schools and college	
Systematic – Methods of the evaluation system work together to tell the Tech Prep story.	Evaluation design is such that one method of data collection builds upon a previous method(s) Evaluation plan in place	
Validity of system – Evaluation system measures what it claims to measure.	Evaluation system answers critical evaluation questions	
Utilization of results – Evaluation system provides data that are beneficial to making decisions related to program improvement.	Action plans in place Ongoing and meta evaluation used % of change, improvement, etc	

Supporting Element #8: Integrated, Contextual Instructional Strategies - Tech Prep curriculum should include instructional strategies that are designed to meet the needs of all learners. Contextual learning, active learning, and problem-based instruction are examples of strategies that teachers should incorporate into school-based teaching to ensure that learning is more relevant and applicable to work, family and community life.

Stage of Implementation: Provide your own assessment of the implementation stage of the element. (Please refer to the scale guidelines on page 1.)

1. Not Begun _________ 2. Planning _________ 3. Development _________ 4. Implementation _________

Provide a rationale for your assessment of implementation: ______________________________

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Quality of Element: Provide your own assessment of the quality of the element.

1. Poor _________ 2. Fair _________ 3. Good _________ 4. Excellent _________

Provide a rationale for your assessment of quality: ______________________________

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Additional Comments and Recommendations:

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Supporting Element #8: Integrated, Contextual Instructional Strategies

Dimension/Description	Program Outcome/Measures	Student Outcome/Measures
Makes connections to the real world – Integrated, contextual instruction makes connections between the real world (especially the world of work) and classroom instruction.	# and % of academic and technical courses that reflect real-world applications	# and % of Tech Prep students who enrolled in courses having real-world applications Tech Prep student ability to apply knowledge across diverse settings (e.g., school, work)
Blends theory and practice – Integrated, contextual instruction creates meaningful linkages between theoretical and practical concepts.	# and % of academic and technical courses that integrate theory and practice	# and % of Tech Prep students who enrolled in courses having integrated theory and practice Tech Prep student ability to apply knowledge across diverse settings (e.g., school, work)
Encourages individual but also team learning – Integrated, contextual learning encourages students to engage in collaborative learning situations	# and % of academic and technical courses that engage students in team learning strategies	# and % of Tech Prep students who enrolled in courses having students engage in team learning strategies Tech Prep student ability to participate in team work successfully
Facilitates constructivist approaches to curriculum – Integrated, contextual instruction encourages students' active participation in the construction of knowledge in a variety of learning environments (classrooms, work settings, laboratories)	# and % of academic and technical courses that facilitate constructivist approaches	# and % of Tech Prep students participating in courses that facilitate constructivist approaches Tech Prep student ability to think critically, make meaningful decisions, solve problems
Utilizes authentic, performance-based assessment – Integrated, contextual instruction focuses on assessing learner skills and knowledge using realistic tasks and settings.	# and % of academic and technical courses that utilize authentic, performance-based assessment	# and % of Tech Prep students who enrolled in courses utilizing authentic, performance-based assessments Tech Prep student ability to demonstrate skills and knowledge in authentic settings

Permission to reprint material obtained from D. Bragg, Project Director, University of Illinois, Urbana/Champaign, IL.

APPENDIX G
Tech Prep Consortium Site Evaluation (TX)

Self-Study

This self-study is designed to help Tech-Prep consortium staff prepare for the peer-review, site visit evaluation process. The completed self study should be completed in either Word or Word Perfect format and *returned at least 14 calendar days before the scheduled site visit* to:

Rob Franks, Program Director for Tech-Prep
Community and Technical Colleges Division
Texas Higher Education Coordinating Board
franksrt@thecb.state.tx.us

Address any questions to Rob Franks at franksrt@thecb.state.tx.us or (512) 427-6442.

Area 1 - The Consortium's Five-Year Tech-Prep Plan

1. Is the Consortium in compliance with its approved five-year plan of operation?
   a) If not, in what areas and why?

2. In what areas does the consortium excel in meeting goals and objectives of the plan?

Area 2 - Annual Curriculum Alignment Meetings

3. Do members of the Tech-Prep consortium and/or consortium staff facilitate annual subject-area articulation meetings between secondary and post-secondary faculty and administrators?

4. If yes, how often are these meetings held? How are the results of these meetings documented?

5. What process is used to disseminate the results of these meetings disseminated? Who receives them?

6. Does the consortium have a process to track these alignments from paper documents to utilization in the classroom?

Area 3 - Tech-Prep Six-Year Plans

7. Who in your consortium is responsible for the development and dissemination of Tech-Prep six-year plans?

8. How are counselors in your consortium's schools and colleges utilizing state-approved, six-year Tech-Prep plans?

9. Do you have examples of how these six-year plans are being used by other members of the consortium, such as Tech-Prep students?

Area 4 - Identification and Reporting of Tech-Prep Students

10. Describe the consortium's processes for the identification and reporting of Tech-Prep program participants.

11. Does the consortium sponsor training of public school and/or college staff in the correct identification and reporting of Tech-Prep students? Describe.

Area 5 - Training Programs for Counselors

12. What examples of training programs for counselors that the Consortium has provided can enable them to more effectively:

a) Provide information to students regarding Tech-Prep programs;
b) Support student progress in completing Tech-Prep programs;
c) Provide information on related employment opportunities;
d) Ensure that such students are placed in appropriate employment; and
e) Stay current with the needs, expectations, and methods of business and all aspects of industry.

Area 6 - Introduction of Tech-Prep Programs to Students

13. When and how is the concept of a Tech-Prep program and six-year plan introduced to middle and/or high school students?

Area 7 - Integration of Curriculum and Contextual Teaching and Learning

14. In what ways has the consortium's activities and services contributed to the implementation of integrated curricula and/or contextual teaching methodologies?

15. Can the consortium document implementation of integrated curricula and/or contextual teaching methodologies in secondary and/or post-secondary classrooms? Which ones?

16. Can the consortium document success of the implementation of integrated curricula and/or contextual teaching methodologies in secondary and/or post-secondary classrooms? How is success documented?

Area 8 - Involvement of Academic Departments

17. What is the extent of the involvement of secondary and/or post-secondary teachers from academic areas (e.g., mathematics, science, and communications), in the development and implementation of Tech-Prep six-year plans (programs of study)?

18. What documentation do you have to support this involvement?

Area 9 - Exemplary Tech-Prep Activities

19. What Tech-Prep activities conducted by your consortium do you, your governing board, members of your consortium, or other individuals or entities recognize as exemplary?

Area 10 - Barriers to Implementation of Tech-Prep

20. What barriers to the effective implementation of Tech-Prep programs and processes in your consortium have been identified by you, your governing board, members of your consortium, or other individuals or entities?

21. What strategy and/or strategies are you utilizing to address these barriers?

22. What external support or assistance do you need to overcome these barriers?

Area 11 - Coordination with High Schools That Work (HSTW)

23. How are *High Schools That Work (HSTW)* sites coordinating their efforts to include Tech-Prep programs and activities?

24. Do you have a process to identify and disseminate key practices of these dual (Tech-Prep and HSTW) sites?

    a) If so, do you have plans for dissemination of these effective practices within your consortium?

Area 12- Use and Application of Technology in Tech-Prep

25. Can you document secondary and/or post-secondary professional development sessions and attendance that focus on the use and application of technology in the classroom in support of Tech-Prep programs?

Area 13 - Work-Based Learning Activities

26. List the types of work-based learning activities that are available for Tech-Prep students in your consortium?
    a) Secondary -
    b) Post-secondary -

27. How many secondary Tech-Prep students have participated (and/or currently participating) in these activities?
    a) Secondary -
    b) Post-secondary -

Area 13 - Preparatory Services

28. What types of preparatory services do members of your consortium provide that assist students specifically to prepare for successful participation in Tech-Prep programs?

Area 14 - Graduate Follow-Up

29. What types of student follow-up procedures, if any, are being utilized within the consortium to help determine appropriate placement and employment of Tech-Prep graduates?

Area 15 - Special Populations

30. What procedures are being implemented by consortium members that ensure equal access to Tech-Prep programs to individuals that are members of special populations?

31. Are any services being implemented appropriate to the needs of special populations that are specific to Tech-Prep programs?

32. Have any Tech-Prep programs been developed in your consortium that specifically serve individuals that are members of special populations?

A Participatory, Peer-Review Process

Introduction

The purpose of the site evaluation process is to collect information and document the characteristics and operations of Tech-Prep consortia to determine if they are satisfactorily meeting the requirements of Tech-Prep education as detailed within the consortium's state-approved five-year plan. The site visit process will aid in the identification of the strengths and barriers in a consortium's Tech-Prep initiative. As a result, areas of strength can be expanded while barriers can be addressed and corrected, allowing the consortium, and the initiative's effectiveness, to be in a continuous state of improvement. In addition, the peer-review process provides an opportunity for the sharing of ideas and experiences and the dissemination of best practices statewide.

Review Cycle

The Tech-Prep consortium site evaluation process is designed to complete of cycle in three years beginning in PY 2001. Up to eight consortia will be visited each year and the order of consortia visited determined by a drawing at the beginning of the cycle. Visits will be conducted August through June **[Insert link here to the file called Site Visit Schedule]**.

Purpose of Site Visits

The objectives of Tech-Prep consortium site visits are:

- To document the extent to which each consortium is attaining its goals/objectives as stated in its annual funding proposal to the Texas Higher Education Coordinating Board and 5-year strategic plan.
- To observe and document positive examples of leadership that facilitate secondary and post-secondary Tech-Prep activities within the consortium, including, those components stated in state and federal Tech-Prep legislation.
- To collect information on the characteristics of each Tech-Prep consortium, including the consortium's membership and leadership structure.
- To collect data to determine the impact of Tech-Prep activities on member institutions and their students by identifying measurable benchmarks and parameters and, where possible, identifying and utilizing existing data sources that can be used for future comparison.
- To collect information to determine the State of Texas' role in supporting its local Tech-Prep consortia and to provide technical assistance.
- To recommend actions for improvement of the consortium's Tech-Prep activities.

Site Visit Structure

A team of reviewers selected to offer a broad range of knowledge and experiences will conduct each site visit. The team, composed of up to eight people, will be selected to include secondary and post-secondary educators from a pool of individuals nominated by Tech-Prep consortia. Pairs of reviewers, as appropriate, will conduct each programmatic section of the review. A state staff member will lead the site visit team and will coordinate the overall site visit process. Staff of the Texas Higher Education Coordinating Board and the Texas Education Agency will oversee the site visit process.

Composition of Team Members

Each site visit team will be composed of the following, as possible and appropriate:

1. A secondary teacher, counselor, or administrator who is familiar with Tech-Prep programs, activities, and processes;
2. A post-secondary teacher, counselor, or administrator who is familiar with Tech-Prep programs, activities, and processes;
3. The director/coordinator from the Tech-Prep consortium whose visit immediately proceeded this visit;
4. The director/coordinator from the Tech-Prep consortium whose visit immediately follows this visit;
5. Two members of the staff of the Texas Higher Education Coordinating Board, one programmatic and one fiscal;
6. One member of the staff of the Texas Education Agency; and
7. The director of the state's Tech-Prep evaluation project.

Preparation for Site Visits

Each consortium to be visited will be contacted in advance by state staff in order to assist in the coordination and development of the schedule and to identify and contact key personnel in the consortium that need to be involved in the visit. Staff of the Tech-Prep evaluation project will coordinate logistics of housing and travel with team members.

The director of the Tech-Prep consortium is responsible for completion of the following activities prior to the site visit:

1. Self-Study - Each director must complete the self-study instrument and return it to the Texas Higher Coordinating Board *at least 14 calendar days* prior to the site visit for dissemination to team members. This instrument will help the director prepare for the site visit and will provide team members with pertinent information regarding the status, achievements, and barriers to Tech-Prep activities **[Insert link here for the file called Site Visit Self Study]**;

2. Schedule Interviews - The director should select, and notify in a timely manner, a broad range of individuals representing secondary and post-secondary institutions, and business and industry, for participation in interviews and meetings (there should be an adequate number of representatives at each interview);

3. Arrange agenda - The director should make room assignments for scheduled meetings, entrance/exit interviews, and team meeting room, based on the sample agenda; and

4. Prepare On-Site Review Materials - The director should assemble and make available the requested site visit documentation for review by the site visit team.

Sample Agenda

The local Tech-Prep director will be responsible for coordinating and scheduling the site visit itinerary. Specific times should be set for the interviews and observations. The site visit team will arrive the evening prior to the day of the on-site visit so the visit can begin at 8:00 a.m. The following sample agenda is provided as a guide for the types of activities to be scheduled during the site visit.

Day One (Wednesday) - Organizational and Process Overview Meetings

3:00 p.m.	Team members arrive at the hotel and check in.
4:00 p.m.	Team members meet with the Tech-Prep director and consortium staff for an overview of the process.
6:00 p.m.	Team dinner
7:30 – 9:00 p.m.	Team meeting to review schedule of activities

Day Two (Thursday)

8:00 a.m.– 5:00 p.m.	The team will divide into pairs and will conduct interviews and review assigned materials.
8:00 a.m.	The local Tech-Prep director will provide an overview of the consortium and its function to date and will provide team with location of materials.
8:30 a.m.– 10:00 a.m.	Interview # 1 - Selected team members will interview secondary, post-secondary, or business and industry representatives.
10:00a.m - 11:30 a.m.	Interview # 2 - Selected team members will interview secondary, post-secondary, or business and industry representatives.
12:00 noon	Team member luncheon (may include consortium representatives)

1:30 – 3:00 p.m.	Interview # 3 - Selected team members will interview secondary, post-secondary, or business and industry representatives.
3:00 – 5:00 p.m.	Team members complete review of materials and interview consortium staff, as needed.
5:00 - 5:30 p.m.	Day One Exit Conference - The site visits team will meet with the local Tech-Prep Coordinator to finalize the day two itinerary.
6:00 p.m.	Team dinner
7:30 – 9:00 p.m.	Site Visit Team Conference - The site visit team will meet privately to summarize their findings and determine if any issues exist for redress during the morning of day two and to prepare for the exit interview.

Day Three (Friday)

8:00a.m. – 10:00 a.m.	The team will divide into pairs and will continue to review assigned materials and get clarification from consortium staff.
10:00 – 11:00 a.m.	Site Visit Team Conference - The site visit team will meet privately to summarize their findings to prepare for the exit interview. Strengths and noted barriers will be identified, and commendations and recommendations will be specified.
11:00a.m.-12:30 p.m.	Exit Interview - The team will meet with appropriate consortium administration, including but not limited to: school district superintendents, principals, community college president and deans, local Tech-Prep director, fiscal agents staff, and interested secondary and post-secondary participants, to present findings and recommendations.

Site Visit Follow-up

Following the site visit, the team leader (state staff) will prepare and provide to the consortium's leadership a written report within 30 days summarizing the results of the visit. Specific strengths and weaknesses will be identified and recommendations for continuation and dissemination of exemplary practices and suggestions to address areas identified as needing improvement.

The consortium will have the opportunity to respond to the report in writing to the Texas Higher Education Coordinating Board.

Permission to reprint material obtained from Texas State Tech Prep Director, TX.

Tech-Prep Consortium Evaluation for : ______________________________

Site Visit Dates: Name of Reviewer:

Review Area: Program Design Sub-Area: Articulation

Description of Criteria: Tech-Prep programs function within an articulation agreement developed under the guidance of a discipline specific team that specifies courses and course sequences, the responsibilities of the educational partners, and the process by which students can receive college credit.

Resources: Documentation of articulation agreements; Documentation of annual discipline specific team meetings; Documentation of state approved Tech-Prep program 6-year plans; consortium member documents regarding articulation of Tech-Prep credit (eg. catalogs, brochures, bulletins, etc.).

Consortium Quality	Reviewer Summary
Measure: Annual meetings are held to develop and improve programs. Core Standard: Consortium has evidence that opportunity is offered for the joint review by secondary and postsecondary faculty of Tech-Prep program course sequences and curricula.	___ Meets Standard ___ Does Not Meet Standard Comments:
Sub-Area: Such meetings are held on a regular basis. Source: Document Review	___ Meets Standard ___ Does Not Meet Standard Comments:
Measure: All Tech-Prep programs have written articulation agreements. Core Standard: All state approved Tech-Prep programs function within current written agreements that specify the courses and course sequence leading to a specific career or career cluster, the roles and responsibilities of the educational partners, and the mechanism by which students can receive college credit.	___ Meets Standard ___ Does Not Meet Standard Comments:
Sub-Area Consortium has a record of articulation agreement updates and a sample agreement from each participating college. Source: Document Review.	___ Meets Standard ___ Does Not Meet Standard Comments:

Tech-Prep Consortium Evaluation for : ____________________

Site Visit Dates:

Name of Reviewer:

Review Area: Program Design

Sub-Area: Implementation

Description of Criteria: Tech-Prep programs lead to high-skill, high-wage employment in occupations with growth potential. Advisory committees are used in the development and maintenance of programs at both the secondary and postsecondary levels. Tech-Prep programs, program support, and Professional development activities are available to all high schools and colleges in the service area.

Resources: State and national occupational statistics; Local occupational information including business surveys; Job descriptions and workplace needs from advisory committee members; State and national occupational skill standards; Minutes of AAS degree program advisory committee meetings

Consortium Quality	Reviewer Summary
Measure: All public secondary districts and/or high schools are contacted regularly. **Core Standard:** The consortium can document that every public school district in the planning region with a high school has been provided information on the opportunity to develop Tech-Prep programs and to attend consortium-sponsored staff development activities. **Sub-Area:** The consortium may also provide for additional participation opportunities such as mini-grants to schools for specific projects. **Sources:** Documents, Secondary interviews.	___ Meets Standard ___ Does Not Meet Standard Comments: ___ Exceeds Standard Comments:
Measure: Industry competencies are used in the development Tech-Prep programs. **Core Standard:** Each Tech-Prep program of study is reviewed regularly by the college's business/industry AAS degree program advisory board for up-to-date industry standards. **Sub-Area:** The college advisory boards for Tech-Prep programs include secondary representation. **Sources:** Documents; secondary, postsecondary, and business/industry interviews.	___ Meets Standard ___ Does Not Meet Standard Comments: ___ Exceeds Standard Comments:

Tech-Prep Consortium Evaluation for : ____________________

Site Visit Dates:

Name of Reviewer:

Review Area: Program Design

Sub-Area: Seamless Course of Study

Description of Criteria: Tech-Prep students are enrolled in a seamless program of study that begins at least by grade eleven and continues through at least two years of postsecondary education incorporating broad career clusters and rigorous academic and technical competencies.

Resources: Tech-Prep six-year educational plans and articulation agreements; Interviews with counselors, registrars, and students; College registration policies regarding awarding of credit for articulated courses; List of programs in place.

Consortium Quality		Reviewer Summary
Measure:	Six-year coherent sequence of courses leading to a two-year postsecondary credential.	___ Meets Standard ___ Does Not Meet Standard Comments:
Core Standard:	Each Tech-Prep education plan is current, relevant, and meet recommended high school graduation program requirements, and leads to at least a two-year degree, certificate, or apprenticeship. Programs follow a logical sequence of rigorous coursework that allows students to build on acquired knowledge without repetition.	
Sub-Area:	TP programs are articulated with baccalaureate programs.	___ Exceeds Standard Comments:
Source:	Document review.	
Measure:	Students are provided a system to easily transition to postsecondary education.	___ Strong Evidence of Progress ___ Some Evidence of Progress ___ No Evidence of Progress Comments:
Core Standard:	Systems are in place to ensure that students receive program information, counseling, and college credit (as applicable) with minimum difficulty. Programs offer monetary savings and/or are time-shortened for students who have completed the high school portion of the program.	
Sub-Area:	Consortium staff are knowledgeable about each college system for identifying TP students and awarding credit.	___ Meets Standard ___ Does Not Meet Standard Comments:
Source:	Document review, secondary and postsecondary interviews.	

Tech-Prep Consortium Evaluation for : ______________________________

Site Visit Dates: Name of Reviewer:

Review Area: Program Sub-Area: Program Support

Description of Criteria: Consortium members should be aware of the differences in student backgrounds that affect their ability to complete a Tech-Prep program. A consortium should help provide career awareness and career exploration activities to encourage students to explore non-traditional careers that their gender or ethnic background would otherwise discourage them from attempting.

Resources: Documentation of professional development activities and attendance records, informational materials produced by the consortium, survey responses from students indicating that they have participated in career awareness activities and have been counseled regarding non-traditional career pathways.

Consortium Quality	Reviewer Summary
Measure: The consortium addresses the ethnic, cultural, and economic barriers that inhibit program participation. **Exemp. Standard:** Consortium staff can identify special populations services provided by schools and colleges offering Tech-Prep programs in the region. Example: Spanish language informational and recruiting material. **Sub-Area:** TP programs are articulated with baccalaureate programs **Sources:** Document review, consortium staff interviews.	___ Meets Standard ___ Does Not Meet Standard Comments:
Measure: Tech-Prep programs have been developed, and are being used, that lead to non-traditional careers. **Exemp. Standard:** Consortium staff can identify specific programs in the service region that lead to non-traditional careers. **Sub-Area:** Consortia exceed the standard by documenting the effectiveness of the program(s) by under-represented student participation. **Sources:** Document review, consortium staff interviews.	___ Meets Standard ___ Does Not Meet Standard Comments: ___ Exceeds Standard Comments:

Tech-Prep Consortium Evaluation for : ____________________

Site Visit Dates: Name of Reviewer:

Review Area: Instruction Sub-Area: Integrated and Contextual Learning

Description of Criteria: Tech-Prep program content is taught by integrating academic and technical content to reinforce student learning. Classes utilize realistic applications of knowledge and skills to demonstrate the utility of that knowledge and/or skill within the context of the workplace.

Resources: Documentation of professional development activities; presence of an active and successful *High Schools That Work* site; student survey responses, student completion of, and success in, program courses; documentation of use of specific curricular materials and activities such as *Principles of Technology* or *Applied Algebra*.

Consortium Quality	Reviewer Summary
Measure: Consortium staff have provided professional development opportunities and materials to member schools. Core Standard: Consortium staff can document that materials and professional development activities emphasize the importance of curriculum integration and contextual teaching strategies in Tech-Prep programs. Sources: Document review, secondary and postsecondary interviews.	Secondary ___ Strong Evidence of Progress ___ Some Evidence of Progress ___ No Evidence of Progress Comments: Postsecondary ___ Strong Evidence of Progress ___ Some Evidence of Progress ___ No Evidence of Progress Comments:
Measure: Member schools are utilizing integrated and contextual teaching and evaluation strategies. Exemp. Standard: Consortium can document schools and/or teachers that utilize integration and contextual methodologies. Sub-Area Documentation also shows the use of alternative assessment techniques and competency-based instruction. Sources: Document review, secondary and postsecondary interviews.	Secondary ___ Strong Evidence of Progress ___ Some Evidence of Progress ___ No Evidence of Progress Comments: Postsecondary ___ Strong Evidence of Progress ___ Some Evidence of Progress ___ No Evidence of Progress Comments: ___ Strong Evidence of Progress ___ Some Evidence of Progress ___ No Evidence of Progress Comments:

Tech-Prep Consortium Evaluation for : ____________________

Site Visit Dates: Name of Reviewer:

Review Area: Instruction Sub-Area: School-site/Work-site Learning

Description of Criteria: Tech-Prep programs should include, whenever possible, work-based learning experiences that allow students to understand all aspects of the industry and how their school-site instruction is utilized in business and industry. Experiences may include, but are not limited to, shadowing experiences, internships, cooperative education or school-site programs such as Project REAL.

Resources: Documentation of program sequences that identify work-based learning components, materials and participation data for various consortium and school-sponsored activities, documentation of schools providing external learning experiences, data indicating the extent of employer participation in such programs.

Consortium Quality	Reviewer Summary
Measure: Consortium members offer regional students the opportunity to participate in work-based learning activities. Exemp. Standard: Consortium can provide a list of work-based activities offered students. Every Tech-Prep program should contain at least one such experience. Source: Document review; secondary, postsecondary, and business/industry interviews.	Secondary ___ Strong Evidence of Progress ___ Some Evidence of Progress ___ No Evidence of Progress Comments: Postsecondary ___ Strong Evidence of Progress ___ Some Evidence of Progress ___ No Evidence of Progress Comments:
Measure: Consortium can document member schools and students participating in work-based learning experiences. Exemp. Standard: Consortium can provide a list of schools and student participation data for work-based experiences. Consortium may provide documentation indicating business and industry participation in work-based learning experiences. Source: Document review.	Secondary ___ Exceeds Standard ___ Meets Standard ___ Does Not Meet Standard Comments: Postsecondary ___ Exceeds Standard ___ Meets Standard ___ Does Not Meet Standard Comments:

Tech-Prep Consortium Evaluation for : ______________________

Site Visit Dates: Name of Reviewer:

Review Area: Instruction Sub-Area: Use of Educational Technology

Description of Criteria: Consortia should encourage and provide training for the use of technology in the classroom in the delivery of instruction and information about Tech-Prep programs. Technology includes, but is not limited to, distance education, computer-assisted instruction, Internet Web sites, electronic meetings, and computer simulation software.

Resources: Documentation of professional development workshops, attendance data, consortium and/or school Web sites, evidence of technology purchases, student survey responses indicating the extent of the use of technology in the classroom, documentation of Tech-Prep courses taught through distance learning.

Consortium Quality	Reviewer Summary
Measure: Technology is used in the delivery of Tech-Prep courses. Exemp. Standard: Regional teachers have had the opportunity to attend professional development workshops on the use of technology in the classroom and the consortium has assisted in the acquisition of technology where possible.	___ Strong Evidence of Progress ___ Some Evidence of Progress ___ No Evidence of Progress Comments:
Sub-Area: Tech-Prep courses may be taught via distance learning or through computer-assisted instruction. Source: Document review; secondary and postsecondary interviews.	___ Exceeds Standard Comments:
Measure: Technology is utilized in the communication of Tech-Prep programs and activities. Exemp. Standard: The consortium has a current web site, with links to other relevant sites, to provide information on Tech-Prep programs, articulation procedures, and consortium activities.	___ Exceeds Standard ___ Meets Standard ___ Does Not Meet Standard Comments:
Sub-Area: Consortium staff utilizes technology in the delivery of information to various audiences including professional development. Consortium may use technology to facilitate electronic meetings and communicate with members to exceed standards. Source: Document review; staff, secondary, and postsecondary interviews.	___ Strong Evidence of Progress ___ Some Evidence of Progress ___ No Evidence of Progress Comments:

Tech-Prep Consortium Evaluation for : ______________________________

Site Visit Dates: Name of Reviewer:

Review Area: Counseling Sub-Area: Career Exploration

Description of Criteria: Beginning at least by the eighth grade, students should have the opportunity to participate in career exploration activities that expose them to the day-to-day activities of the workplace and allow them to experience different career and non-traditional occupations. Experiences may be either work-site related or gained by alternative methods such as on-line or computer-based.

Resources: Documentation of school and student participation in local and consortium-wide activities, documentation of schools that have career exploration activities, documentation of business/ industry mentors and speakers, documentation of the results of such activities as Groundhog Day, Career Day, and career-related mentoring.

Consortium Quality	Reviewer Summary
Measure: The consortium and its member secondary schools provide opportunities for career exploration. **Core Standard:** The consortium provides opportunities for career exploration to students and there is evidence of an increasing number of member schools offering local career exploration activities, beginning by the eighth grade, to their students. **Sources:** Document review, secondary interviews.	___ Exceeds Standard ___ Meets Standard ___ Does Not Meet Standard Comments:
Measure: Students receive career guidance in the setting of career and educational goals. **Core Standard:** There is evidence that secondary students receive information on Tech-Prep six-year plans and related career opportunities. **Sources:** Document review, secondary interviews.	___ Exceeds Standard ___ Meets Standard ___ Does Not Meet Standard Comments:

Tech-Prep Consortium Evaluation for : ______________________

Site Visit Dates:

Name of Reviewer:

Review Area: Professional Development

Sub-Area: All Aspects of the Industry

Description of Criteria: Secondary and postsecondary faculty and counselors involved in Tech-Prep programs must have exposure to the workplace. Faculty need to know how their particular discipline applies to various business and industry application to help students relate theory to application. Counselors need to understand workplace opportunities and needs.

Resources: Documentation of professional development opportunities and attendance records, documentation of business and industry involvement, products of worksite experiences including curriculum plans and classroom activities.

Consortium Quality	Reviewer Summary
Measure: Educators participate in worksite professional development activities. **Exemp. Standard:** Data shows an increase in the numbers of educators that participate in work-site professional development activities such as shadowing experiences or internships.	Secondary ___ Strong Evidence of Progress ___ Some Evidence of Progress ___ No Evidence of Progress Comments: Postsecondary ___ Strong Evidence of Progress ___ Some Evidence of Progress ___ No Evidence of Progress Comments:
Sub-Area: Materials are produced as a result of these activities that can be used in the classroom. **Sources:** Document review, secondary and postsecondary interviews.	___ Exceeds Standard Comments:
Measure: Businesses and industries provide sites and experiences for educator professional development activities. **Exemp. Standard:** Data shows an increase in the number of businesses and sites that are available for educator professional development activities such as shadowing experiences and internships. **Sources:** Document review, business/industry, secondary, and postsecondary interviews.	___ Strong Evidence of Progress ___ Some Evidence of Progress ___ No Evidence of Progress Comments:

Tech-Prep Consortium Evaluation for : ____________________

Site Visit Dates: Name of Reviewer:

Review Area: Professional Development Sub-Area: Assessment and Staff Knowledge

Description of Criteria: Secondary and postsecondary faculty must be provided professional development activities that offer alternatives to traditional student assessment techniques. Secondary and postsecondary faculty must be provided professional development activities that address the use of educational technologies.

Resources: Documentation regarding professional development activities including attendance records, student survey responses regarding the use of technology in the classroom, examples of alternative assessment techniques used in member schools.

Consortium Quality	Reviewer Summary
Measure: Opportunities have been made available for faculty to learn alternative assessment techniques. **Exemp. Standard:** Data indicates that professional development activities have been made available to secondary and postsecondary faculty in alternative assessment including portfolios and competency-based evaluation. **Sub-Area:** Data may indicate an increase in the numbers of postsecondary faculty taking advantage of the professional development. **Sources:** Document review, secondary and postsecondary interviews.	___ Meets Standard ___ Does Not Meet Standard Comments: ___ Exceeds Standard Comments:
Measure: Staff have acquired knowledge and administrative skills regarding the entire Tech-Prep program process. **Exemp. Standard:** All consortium staff members have been given the opportunity to acquire necessary knowledge and skills (may be local training) regarding Tech-Prep programs, articulation processes, and other relevant knowledge. **Sources:** Document review, consortium staff interviews.	___ Exceeds Standard ___ Meets Standard ___ Does Not Meet Standard Comments:

Tech-Prep Consortium Evaluation for : ____________________

Site Visit Dates: Name of Reviewer:

Review Area: Professional Development Sub-Area: Career Guidance/Student Identification

Description of Criteria: Secondary and postsecondary counselors must be given the opportunity to participate in professional development that will provide the tools necessary to deliver career guidance and counseling to students. Secondary and postsecondary personnel must be trained in the correct identification of Tech-Prep students, Tech-Prep programs, and articulation processes.

Resources: Secondary and postsecondary student participation data, workshop documentation including attendance, credit articulation records, student completion data, workshop materials, student survey responses to questions about career guidance activities.

Consortium Quality	Reviewer Summary
Measure: Counselors are given the opportunity to participate in career guidance training activities. **Core Standard:** Consortium has provided the opportunity for counselors to receive career guidance training. The consortium may show an increase in the numbers of participants including postsecondary counselors. The consortium may show an increase in career counseling activities in both secondary and postsecondary institutions. **Sources:** Document review.	Secondary ___ Exceeds Standard ___ Meets Standard ___ Does Not Meet Standard Comments: Postsecondary ___ Exceeds Standard ___ Meets Standard ___ Does Not Meet Standard Comments:
Measure: The consortium has provided training in the correct identification of Tech-Prep students. **Core Standard:** Documentation, including workshop materials and attendance records, shows that the consortium has participated in the delivery of professional development related to the correct identification of Tech-Prep students including PEIMS and college entry and articulation processes to both secondary and postsecondary audiences. **Sources:** Document review, secondary and postsecondary interviews.	___ Meets Standard ___ Does Not Meet Standard Comments:

Tech-Prep Consortium Evaluation for : ______________________________

Site Visit Dates: Name of Reviewer:

Review Area: Marketing Sub-Area: Dissemination to Target Audiences

Description of Criteria: The consortium has developed information dissemination plans, marketing strategies, and related print and electronic materials, including a currently updated Web site, that are disseminated appropriately to target audiences.

Resources: Consortium Web site, marketing materials, marketing plan, documentation of information distribution, records of Web site hits, examples of marketing materials and dissemination plans for targeted audiences.

Consortium Quality	Reviewer Summary
Measure: Students have information on TP programs, articulated credit, and workforce/career data. **Core Standard:** Informational materials are provided to secondary and postsecondary students on the benefits of Tech-Prep, postsecondary programs offered, career opportunities, and the process required to receive articulated credit. **Sources:** Document review, secondary and postsecondary interviews.	Secondary ___ Meets Standard ___ Does Not Meet Standard Comments: Postsecondary ___ Meets Standard ___ Does Not Meet Standard Comments:
Measure: Employers, parents, and communities have information on TP programs, articulated credit, and workforce/career data. **Core Standard:** Employers, parents, and local communities are provided information and informational materials on the benefits of Tech-Prep, postsecondary programs offered, career opportunities, and the process required to receive articulated credit. **Sources:** Document review, business/industry. Interviews	___ Meets Standard ___ Does Not Meet Standard Comments:

Tech-Prep Consortium Evaluation for : ____________________

Site Visit Dates:

Name of Reviewer:

Review Area: Marketing

Sub-Area: Dissemination to Target Audiences

Description of Criteria: **The consortium has developed information dissemination plans, marketing strategies, and related print and electronic materials, including a currently updated Web site that are disseminated appropriately to target audiences.**

Resources: **Consortium Web site, marketing materials, marketing plan, documentation of information distribution, records of Web site hits, examples of marketing materials and dissemination plans for targeted audiences.**

Consortium Quality	Reviewer Summary
Measure: Educators have information on TP programs, articulated credit, and workforce/ career data. Core Standard: Secondary and postsecondary educators are provided information on the benefits of Tech-Prep, postsecondary programs offered, career opportunities, and the process required to receive articulated credit. Sources: Document review, secondary and postsecondary interviews.	Secondary ___ Meets Standard ___ Does Not Meet Standard Comments: Postsecondary ___ Meets Standard ___ Does Not Meet Standard Comments:
Measure: Counselors have information on TP programs, articulated credit, and workforce/career data. Core Standard: Secondary and postsecondary counselors are provided information on the benefits of Tech-Prep, postsecondary programs offered, career opportunities, and the process required to receive articulated credit. Sources: Document review, secondary and postsecondary interviews.	Secondary ___ Meets Standard ___ Does Not Meet Standard Comments: Postsecondary ___ Meets Standard ___ Does Not Meet Standard Comments:

Tech-Prep Consortium Evaluation for : ____________________

Site Visit Dates: Name of Reviewer:

Review Area: Budgetary Sub-Area: Record-keeping

Description of Criteria: Every consortium, as part of the evaluation process, will receive fiscal monitoring by an Agency accountant. This form is a summary of the fiscal monitoring that ensures that all consortium expenditures are appropriately documented and are provided for and detailed in the grant budget for the current year.

Resources: Fiscal agent records and consortium fiscal records, supporting documentation as appropriate.

Consortium Quality	Reviewer Summary
Measure: The consortium and/or its fiscal agent keep accurate and complete records on all expenditures. **Core Standard:** All expenditures have supporting documentation. **Sources:** Document review.	___ Meets Standard ___ Does Not Meet Standard Comments:
Measure: Consortium maintains records on how funds are distributed. **Core Standard:** The consortium has documentation that details how funds are budgeted with governing board and member input.	___ Meets Standard ___ Does Not Meet Standard Comments:
Sub Area: If the consortium provides mini-grants to member schools, there is documentation that describes the award process. **Sources:** Document review.	___ Meets Standard ___ Does Not Meet Standard Comments:

Tech-Prep Consortium Evaluation for : ______________________________

Site Visit Dates: Name of Reviewer:

Review Area: Budgetary Sub-Area: Budgetary Monitoring

Description of Criteria: Every consortium, as part of the evaluation process, will receive fiscal monitoring by an Agency accountant. This form is a summary of the fiscal monitoring that ensures that all consortium expenditures and mini-grant expenditures are in accordance with federal and state guidelines.

Resources: Fiscal agent records and consortium fiscal records, supporting documentation as appropriate.

Consortium Quality	Reviewer Summary
Measure: All consortium expenditures are within Perkins Act, state guidelines, and EDGAR guidelines. **Core Standard:** Tech-Prep funds are expended according to Perkins Act guidelines as well as EDGAR regulations regarding all expenditures of federal funds. Additionally, funds are expended according to specific state guidelines including, but not limited to, the requirements set forth in the RFP "Provisions and Assurances". **Sources:** Document review.	___ Meets Standard ___ Does Not Meet Standard Comments:
Measure: All mini-grant expenditures are within Perkins Act, state guidelines, and EDGAR guidelines. **Core Standard:** The consortium has documentation that mini-grant funds are applied for, documented, and expended in a manner that is consistent with Perkins Act, EDGAR regulations, and state guidelines.	___ Meets Standard ___ Does Not Meet Standard Comments:
Sub Area: Mini-grant recipients must be made aware of the restrictions placed on Perkins Title II funds as part of the RFP process. **Sources:** Document review.	___ Meets Standard ___ Does Not Meet Standard Comments:

Tech-Prep Consortium Evaluation for : ____________________

Site Visit Dates: Name of Reviewer:

Review Area: Planning Sub-Area: Strategic Planning

Description of Criteria: The consortium must have a 5-year plan including: implementation and dissemination of Tech-Prep programs of study; curriculum development; student transition to college and work; professional development in counseling, real-world applications; academic/technical course integration; marketing; and integration of the workplace into the educational process.

Resources: Consortium 5-year plan, documentation indicating, at a minimum, annual updating of the plan including participation records, documentation indicating evaluation procedures utilized and the results of the evaluations.

Consortium Quality	Reviewer Summary
Measure: The consortium has a long-range implementation plan. **Core Standard:** The consortium has on file a current, 5-year implementation plan that incorporates state and local goals. The plan includes objectives, activities, dates, and evaluation criteria. **Sources:** Document review.	___ Meets Standard ___ Does Not Meet Standard Comments:
Measure: The consortium plan is re-visited and updated on a regular basis. **Core Standard:** The 5-year plan is reviewed, evaluated, and revised (as needed) by the governing board and fiscal agent at least annually. Documentation shows that the long-range plan has been revisited and revised as needed.	___ Meets Standard ___ Does Not Meet Standard Comments:
Sub Area: There is a process that affords all consortium members the opportunity to offer input into the consortium plan. **Sources:** Document review.	___ Meets Standard ___ Does Not Meet Standard Comments:

Tech-Prep Consortium Evaluation for : ____________________

Site Visit Dates: Name of Reviewer:

Review Area: Planning Sub-Area: Local Participation in Planning

Description of Criteria: All consortium member institutions must have the opportunity to participate in the planning of consortium activities. In the event that it is impossible for every educational entity to participate, they must have representation and a venue for input into the process.

Resources: Consortium by-laws, documentation of meeting attendance for planning and budget development/modification, documentation regarding the dissemination of consortium goals, objectives, activities, and budgetary information.

Consortium Quality		Reviewer Summary
Measure:	The structure and governance of the consortium provides for input opportunities for all stakeholders.	___ Meets Standard ___ Does Not Meet Standard Comments:
Core Standard:	By-laws provide for representation of all stakeholders, meetings are adequately advertised.	
Sub-Area:	There is a process where all stakeholders are given the opportunity to participate in the decision-making process.	___ Meets Standard ___ Does Not Meet Standard Comments:
Sources:	Document review.	
Measure:	Consortium members participate in the establishment of the consortium's annual budget and budget revisions.	___ Meets Standard ___ Does Not Meet Standard Comments:
Core Standard:	The consortium can demonstrate that the use of a representative budget committee in the development of its annual budget and budget revisions.	
Sub Area:	Consortium stakeholders are adequately notified and provision is made for member input into the process.	___ Meets Standard ___ Does Not Meet Standard Comments:
Sources:	Document review; business/industry, secondary, and postsecondary interviews.	

Tech-Prep Consortium Evaluation for : ____________________

Site Visit Dates: Name of Reviewer:

Review Area: Student Success Sub-Area: Student Participation and Completion

Description of Criteria: Consortia must show an improvement trend in all Title II Tech-Prep quality indicators including completion of the secondary program, matriculation to postsecondary education, hours of articulated credit awarded, completion of the postsecondary program, and job placement. Additional indicators such as drop-out reduction and satisfaction data should be also considered.

Resources: State data including: Texas Education Agency PEIMS data; Texas Higher Education Coordinating Board data; Texas Workforce Commission data (SOICC data); and local survey instrument data

Consortium Quality	Reviewer Summary
Measure: Students are successful in secondary Tech-Prep programs.	___ Meets Standard ___ Does Not Meet Standard Comments:
Core Standard: Student data indicates an increase in the number of Tech-Prep program participants and completers at the secondary level.	
Sub-Area: Students indicate satisfaction in the Tech-Prep programs offered at their schools.	___ Exceeds Standard Comments:
Sub-Area: Data indicates an increase in the number of students participating in work-based educational activities.	___ Exceeds Standard Comments:
Sub-Area: Data indicates an increase in the use of contextual teaching methodologies.	___ Exceeds Standard Comments:
Sources: Document review.	
Measure: Students are successful in postsecondary Tech-Prep activities.	___ Meets Standard ___ Does Not Meet Standard Comments:
Core Standard: Data indicates an increase in the number of students transitioning to postsecondary programs and receipt of articulated credit.	
Sub Area: Data indicates student completion of postsecondary programs, and placement in appropriate jobs.	___ Exceeds Standard Comments:
Sources: Document review.	

Tech-Prep Consortium Evaluation for : ______________________

Site Visit Dates: Name of Reviewer:

Review Area: Evaluation Sub-Area: Benchmarks and Enrollment Data

Description of Criteria: The consortium has established benchmarks and quality standards that can be clearly communicated to consortium members. The consortium can provide local program enrollment data.

Resources: Consortium long-range plan that includes evaluation criteria for state and local goals, documentation of local data collection such as Scantron reporting forms and local survey data.

Consortium Quality	Reviewer Summary
Measure: Consortium has clearly defined benchmarks and evaluation criteria. **Core Standard:** Consortium long-range plan has clearly defined and established quantitative evaluation criteria for each state and local goal and/or objective. There may be additional unique criteria depending on the consortium's local goals and objectives. **Sources:** Document review.	___ Meets Standard ___ Does Not Meet Standard Comments:
Measure: Consortium maintains records on approved programs and activity participation. **Core Standard:** The consortium has current data on all approved AAS Tech-Prep programs offered by secondary school/school district and college participating. **Sources:** Document review.	___ Meets Standard ___ Does Not Meet Standard Comments:

Tech-Prep Consortium Evaluation for : ____________________

Site Visit Dates:

Name of Reviewer:

Review Area: Evaluation

Sub-Area: Student Follow-up

Description of Criteria: The consortium has a method for the identification and follow-up of Tech-Prep students in both secondary and postsecondary programs.

Resources: TEA PEIMS data, THECB college data, Scantron data, college procedures for awarding articulated credit, college procedures for identifying Tech-Prep students.

Consortium Quality	Reviewer Summary
Measure: Consortium members can identify secondary Tech-Prep students. **Core Standard:** Consortium member secondary schools have a method to identify a student who is participating in or has completed the high school portion of the Tech-Prep program. **Sources:** Document review; secondary interview.	___ Strong Evidence of Progress ___ Some Progress ___ No Evidence of Progress Comments:
Measure: Consortium members can identify postsecondary Tech-Prep students. **Core Standard:** Consortium member colleges have a method to identify a student who is matriculating from a secondary Tech-Prep program and to record the award of college credit for classes taken in high school, where applicable.	___ Strong Evidence of Progress ___ Some Progress ___ No Evidence of Progress Comments:
Sub-Area: There is evidence of an increasing number of students who matriculate to postsecondary programs, receive articulated college credit, and enter and complete Tech-Prep programs. **Sources:** Document review; postsecondary interview.	___ Strong Evidence of Progress ___ Some Progress ___ No Evidence of Progress Comments:

APPENDIX H
Assessment of Tech Prep Components (MT)

Central Montana Tech Prep Consortium

Submitted by ____
Name of School or College

Please rate CMTPC's progress on each of the following factors to evaluate the collaborative efforts of the CMTPC. Indicate your response by circling the most appropriate number, according to the scale below. Please be sure to complete both sides of the form.

0 - N/A or Not enough information to answer
1 - Nonexistent
2 - Beginning
3 - Moderate
4 - Advanced
5 - Highly advanced

I.	VISIBLE COMMITMENT OF LEADERS TO TECH PREP	
	Local Board of Trustees/School Board Members	0 1 2 3 4 5
	School District Administrators (Superintendents & Principals)	0 1 2 3 4 5
	MSUCOT-GF Administration (Deans & Registrar) & Faculty	0 1 2 3 4 5
	Other Colleges' Administration & Faculty	0 1 2 3 4 5
	Community and Business Leaders	0 1 2 3 4 5
	Central Montana Tech Prep Consortium Staff	0 1 2 3 4 5
II.	FACULTY AND STAFF ORIENTATION ABOUT TECH PREP	
	Local High School & District: Knowledge and awareness	0 1 2 3 4 5
	Local High School & District: Support and active involvement	0 1 2 3 4 5
	MSUCOT-GF: Knowledge and awareness	0 1 2 3 4 5
	Other Colleges/P-S Institutions: Knowledge and awareness	0 1 2 3 4 5
	Other Colleges/P-S Institutions: Support & active involvement	0 1 2 3 4 5
III.	TECH PREP ARTICULATION AGREEMENTS	
	Covering courses in Business & Office Technology	0 1 2 3 4 5
	Covering courses in Allied Health (Chemistry, Biology)	0 1 2 3 4 5
	Covering courses in Trades & Technology	0 1 2 3 4 5
	Covering courses in Family/Consumer Science	0 1 2 3 4 5
	Covering courses in Graphic/Commercial Art	0 1 2 3 4 5
	Covering courses in academic/general education (Math, English)	0 1 2 3 4 5
	Covering courses in other vocational cluster areas	0 1 2 3 4 5
IV.	INSERVICE & PROFESSIONAL DEVELOPMENT FOR TEACHERS AND COUNSELORS	
	Provided by Central Montana Tech Prep Consortium	0 1 2 3 4 5
	Provided by Local High School & District	0 1 2 3 4 5
V.	CAREER GUIDANCE RELATED TO TECH PREP	
	Emphasized by Central Montana Tech Prep Consortium	0 1 2 3 4 5
	Emphasized by Local High School and/or School District	0 1 2 3 4 5
VI.	RELEVANCY OF INSTRUCTION TO LABOR MARKET	
	As provided in High School and/or School District	0 1 2 3 4 5
	As provided at MSU College of Technology-Great Falls	0 1 2 3 4 5
	As provided at other Tech Prep partner colleges	0 1 2 3 4 5
VII.	CURRICULUM REVIEW BY LOCAL EMPLOYERS/WORKERS	
	Local School District: Use of Business Advisory Panels	0 1 2 3 4 5
	MSUCOT-GF: Use of Business Advisory Panels	0 1 2 3 4 5

0 - N/A or Not enough information to answer
1 - Nonexistent
2 - Beginning
3 - Moderate
4 - Advanced
5 - Highly advanced

VIII.	TECH PREP SEQUENCE OF STUDY	
	School District: Coordinated sequence of vocational courses	0 1 2 3 4 5
	School District: Applied Academics, infused or discreet	0 1 2 3 4 5
	High School and/or District Focus on Career Paths or Clusters	0 1 2 3 4 5
	MSUCOT-GF: Coordinated sequence of vocational courses	0 1 2 3 4 5
	MSUCOT-GF: Applied Academics, infused or discreet	0 1 2 3 4 5
IX.	ORGANIZATION/ADMINISTRATION OF TECH PREP CONSORTIUM	
	Effectiveness of structure and use of committees/work groups	0 1 2 3 4 5
	Effectiveness of Tech Prep Coordinator	0 1 2 3 4 5
	Responsiveness of Tech Prep Staff	0 1 2 3 4 5
	Adequacy of Tech Prep funding	0 1 2 3 4 5
	Appropriate use of Tech Prep funds	0 1 2 3 4 5
X.	MARKETING OF TECH PREP	
	CMTPC Staff: To Internal Market (students, teachers, parents)	0 1 2 3 4 5
	CMTPC Staff: To External Market (community & employers)	0 1 2 3 4 5
	MSUCOT-GF: To Internal Market (students, faculty)	0 1 2 3 4 5
	MSUCOT-GF: To External Market (community & employers)	0 1 2 3 4 5
	Local High School: To Internal Market	0 1 2 3 4 5
	Local High School: To External Market	0 1 2 3 4 5
	Business and Community Representatives: To all publics	0 1 2 3 4 5
	State Education Agencies (OPI, OCHE, MCVE): To all publics	0 1 2 3 4 5
XI.	OUTREACH/SUPPORT SERVICES FOR TARGET POPULATIONS	
	Gender Equity	0 1 2 3 4 5
	Special Needs	0 1 2 3 4 5
XII.	SYSTEM TO MONITOR RESULTS / COLLECT DATA / EVALUATE EFFORT	
	Central Montana Tech Prep Consortium	0 1 2 3 4 5
	Local High School & District	0 1 2 3 4 5
XIII.	SYSTEM FOR ANNUAL REVIEW & REVISIONS OF OBJECTIVES	
	Central Montana Tech Prep Consortium	0 1 2 3 4 5

Please make any additional comments on the organizational and programmatic components and the value and effectiveness of the Central Montana Tech Prep Consortium efforts.

Permission to reprint material obtained from the Tech Prep Coordinator, Central Tech Prep Consortium, MT.

APPENDIX I
Student Outcomes Rubric

Rating for evaluating each component: Read each component and the rating criteria. Select the best rating based upon the current activity level in your consortium.	E A M N	**Exceptional Effort** **Above Average Effort** **Minimal Effort** **No Effort**

Evaluative Criteria	Component	Data Source	Rating			
			E	A	M	N
Student Outcomes	1. Tech Prep consortium collects data on secondary and postsecondary Tech Prep student outcomes.					
	2. Secondary Tech Prep student academic achievement has: a) decreased ___% b) remained the same c) increased ___%					
	3. Postsecondary Tech Prep student academic achievement has: a) decreased ____% b) remained the same c) increased ____%					

Permission to reprint obtained from S. Ruhland, University of Minnesota, St. Paul, MN.

Evaluative Criteria	Component	Data Source	Rating E A M N
Student Outcomes	5. Postsecondary Tech Prep graduation rate has: a) decreased ____% b) remained the same c) increased ____%		
	6. Tech Prep student entry into and retention in postsecondary education, advanced training, employment, and/or military has: a) decreased ____% b) remained the same c) increased ____%		
	7. Data is collected using multiple data collection strategies to include, but not limited to: surveys, interviews, observations, student transcript review, and follow-up studies (to include longitudinal data collection).		

Program Outcomes Rubric

Rating for evaluating each component: Read each component and the rating criteria. Select the best rating based upon the current activity level in your consortium.			
	E	**Exceptional Effort**	
	A	**Above Average Effort**	
	M	**Minimal Effort**	
	N	**No Effort**	

Evaluative Criteria	Component	Data Source	Rating E	 A	 M	 N
Program Outcomes	1. Tech Prep stakeholders seek input and active involvement from community members to prepare all students, K-16 and beyond for college and careers.					
	2. Professional development activities (workshops, conferences, seminars, and internships) are provided to secondary and postsecondary staff (including teachers, counselors, and administrators) to support sustained and innovative experiences.					
	3. The Tech Prep consortium promotes equal access for all students regardless of background or ability level.					

Evaluative Criteria	Component	Data Source	Rating E A M N
Program Outcomes	4. Curriculum and instructional strategies (e.g., contextual learning, authentic assessment, integration, applied academics, and work-based learning) enable all students to achieve high academic and technical skills standards.		
	5. Career guidance is provided for students to develop individual education/career plans (e.g., career planning guides, career pathways, career clusters).		
	6. Articulation agreements are developed with secondary and two- and four year institutions and are reviewed on a regular basis.		
	7. Tech Prep builds partnerships with secondary, and two- and four year institutions.		
	8. Information is communicated to all stakeholders.		

APPENDIX J
Faculty/Administrator Questionnaire (FL)

Orange • Osceola • Valencia Tech Prep Consortium

Please indicate to what extent you agree or disagree with the following statements.

0 = No opinion 1 = Strongly Disagree 2 = Disagree 3 = Agree 4 = Strongly Agree

0 1 2 3 4 Teachers perceive that higher expectations have been established for students enrolled in a Tech Prep program of study.

0 1 2 3 4 Tech Prep students are taking higher level academic courses in mathematics, science, and communications than did general education students in previous years.

0 1 2 3 4 Teachers have positive views about students' ability to achieve higher expectations.

0 1 2 3 4 Vocational-technical teachers stress their mission of preparing students for employment and further education.

0 1 2 3 4 Academic teachers stress their mission of preparing students for employment and further education.

0 1 2 3 4 Participating schools in the consortium have a special admissions process to Tech Prep that makes students feel distinct.

0 1 2 3 4 More students take at least two mathematics and two science courses above basic or general courses.

0 1 2 3 4 There is an increase in time and emphasis devoted to competency instruction.

0 1 2 3 4 Academic instructional materials have been developed/adopted by academic teachers to emphasize mathematics, science, and communications skills as they relate to occupational fields or clusters.

0 1 2 3 4 Vocational materials have been developed/adopted by vocational-technical teachers to emphasize mathematics, science, and communications skills as they relate to occupational fields or clusters.

0 1 2 3 4 Instructional strategies are being used that stress reading and writing in the technical field.

0 1 2 3 4 Increased number of joint planning sessions among vocational-technical and academic teachers.

0 1 2 3 4 Increased number of demonstrated integrated teaching activities among vocational-technical and academic teachers at the secondary level.

0 1 2 3 4	Increased number of demonstrated integrated teaching activities among vocational-technical and academic teachers at the postsecondary level.
0 1 2 3 4	Secondary and postsecondary teachers meet to coordinate curriculum development activities.
0 1 2 3 4	Individualized educational plans for Tech Prep students are developed and used.
0 1 2 3 4	Individualized Tech Prep student educational plans reveal that student's programs of study match their perceived goals.
0 1 2 3 4	Individualized Tech Prep student educational plans reveal that students are taking a sequence of mathematics, science, and communications courses that is appropriate for their chosen occupational or technical field.
0 1 2 3 4	All students are given an aptitude and occupational and/or technical assessment test and are assisted in interpreting the results.
0 1 2 3 4	Counselors demonstrate an understanding of Tech Prep and are recruiting students.
0 1 2 3 4	School-Based Tech Prep Coordinators assist students with career planning and Tech Prep assessments.
0 1 2 3 4	Minimum reading and mathematics achievement levels are established to identify students needing extra help.
0 1 2 3 4	Tech Prep admission process identifies students needing special help.
0 1 2 3 4	Individualized educational plans are on file for students with basic skills deficiencies.
0 1 2 3 4	Teachers and students verify coordination of vocational-technical, mathematics, science, and communications instruction for students with deficiencies.
0 1 2 3 4	Special instruction is provided to students with mathematics, science, or communications deficiencies.
0 1 2 3 4	Recent staff development or college credit instruction has been provided in applied teaching strategies for mathematics, science, and communications skills underlying the vocational-technical field.
0 1 2 3 4	Curriculum and instructional plans and materials reflect mathematics, science, and communication competencies that underlie the vocational-technical field.
0 1 2 3 4	Classroom observation reveals that vocational-technical teachers teach and reinforce mathematics, science, and communications competencies that underlie their vocational-technical field.
0 1 2 3 4	Classroom observation reveals that academic teachers teach and reinforce academic competencies as they relate to appropriate occupational fields.

0 1 2 3 4	Vocational-technical and academic faculty are given extended periods of time to learn from each other.
0 1 2 3 4	Vocational-technical and academic faculty share joint professional development activities.
0 1 2 3 4	Students and teachers perceive that more time is being devoted to applied teaching and more real-life examples are used to associate competencies with vocational-technical applications.
0 1 2 3 4	Vocational-technical and academic teachers have received recent staff development on applied instructional methods, effective teaching, and application of competencies.
0 1 2 3 4	Curriculum and instructional plans reflect applied teaching strategies.
0 1 2 3 4	Classroom observation reveals increased use of applied teaching methods for students following a Tech Prep program of study.
0 1 2 3 4	Student handbooks and/or other student materials at the secondary and post-secondary level contain information on offered Tech Prep programs of study offered by the consortium.
0 1 2 3 4	Regional occupational forecasts at the time the students enter Tech Prep indicate that above-minimum wage jobs in their field of study will be available.
0 1 2 3 4	Businesses and industries participate in the periodic review and up-dating of programs of study and curricula to ensure the occupational/technical material taught is relevant for the current job market.
0 1 2 3 4	Businesses and industries are actively sought to provide internships/ apprenticeships/mentors to students to give them experience in their field prior to placement.

Permission to reprint material obtained from the Coordinator, Tech Prep and Postsecondary Transition, Valencia Community College, FL.

Post Secondary Administrator Survey of the Tech Prep Program (NY)

As part of an effort to evaluate the New York State's Tech Prep programs we are collecting perceptions about the effectiveness of the program. As an administrator involved in this program, your input is very important to us. Please read each of the following questions and provide us with your response. To maintain confidentiality of your responses, please place the survey in the accompanying envelope, seal it and return the envelope to ______________________________.

About You

Gender: ____1. Male ____2. Female Title: ______________________________
Years of experience as an administrator ___________.
How long have you been involved with Tech Prep as an administrator? ________________

Support for Tech Prep

1. The following are areas in which you may have received support for implementation of Tech Prep. For each, please circle the letter indicating the level of support you have received.

	Outstanding	Sufficient	Insufficient	No Support
1. Supplies, materials and equipment	1	2	3	4
2. Staff development.	1	2	3	4
3. Planning time.	1	2	3	4
4. Support from other teachers/faculty.	1	2	3	4
5. Support from counselors/admissions staff.	1	2	3	4
6. Support from administrators.	1	2	3	4
7. Support from the business community.	1	2	3	4

Staff Development

2. The following is a list of staff development topics that address Tech-Prep related issues, for each, please indicate if you have attended or how you feel about attending them. (Please circle your responses.)

	Have attended	Will attend	Would like to attend	No need to attend
1. General information about Tech Prep	1	2	3	4
2. Recruitment, placement, and retention of students for Tech Prep	1	2	3	4
3. School relationship with business/industry/labor	1	2	3	4
4. School to work information	1	2	3	4
5. Integrating vocational and academic content	1	2	3	4
6. Promoting cooperation between secondary and post-secondary staff	1	2	3	4
7. Job placement assistance for students	1	2	3	4

Your Involvement in Tech Prep

3. What has been your involvement in the planning and implementation of Tech Prep during the last three years? (Please check as many as apply.)

___ 1. Served on the planning committee for Tech Prep.
___ 2. Helped develop Tech Prep curriculum.
___ 3. Helped develop the content of the articulation agreements between high school and community colleges.
___ 4. Advised students on Tech Prep recruitment and options.
___ 5. Visited other Tech Prep programs.
___ 6. Participated in Tech Prep meetings with business or community leaders.
___ 7. Attended national or regional conference on Tech Prep.
___ 8. Conducted workshops/training on Tech Prep.
___ 9. Presented material at national Tech Prep conferences.
___ 10. Presented material at national Tech Prep conference.
___ 11. Other ______________________________

About Tech Prep

4. The following areas reflect attitudes or perceptions about the Tech Prep program. For each, please circle your responses to the following statements using this scale:

1= Strongly agree 2= Agree 3 = Slightly agree 4= Slightly disagree 5= Disagree 6= Strongly disagree

	SA					SD
1. Tech Prep is beneficial for former "general program" students.	1	2	3	4	5	6
2. Tech Prep is beneficial for "regents program" students.	1	2	3	4	5	6
3. Integrating academic and vocational skills is crucial to Tech Prep success	1	2	3	4	5	6
4. Tech Prep is just another short-lived educational innovation.	1	2	3	4	5	6
5. Tech Prep helps to orient students to current work place requirements.	1	2	3	4	5	6
6. Tech Prep effectively prepares students for post secondary education and/or future employment.	1	2	3	4	5	6
7. I support the continuation of the Tech Prep Program.	1	2	3	4	5	6
8. I believe that the Tech Prep program helps retain students who may have been at risk.	1	2	3	4	5	6
9. Students have positive attitudes about their experience in the Tech Prep program.	1	2	3	4	5	6
10. Student self esteem is raised through the Tech Prep program.	1	2	3	4	5	6
11. Articulation agreements are important for Tech Prep success.	1	2	3	4	5	6
12. If federal Tech Prep funds were discontinued, my Tech Prep program would have difficulty in continuing.	1	2	3	4	5	6
13. Administrators are knowledgeable about Tech Prep of funding and curriculum.	1	2	3	4	5	6
14. School board members are knowledgeable about Tech Prep of funding and curriculum.	1	2	3	4	5	6

5. Please provide us with any comments, concerns, and issues you may have about Tech Prep.

Permission to reprint material obtained from B. Flugman, Center for Advanced Study in Education, NY. This survey developed by Dianna L. Newman, University at Albany, State University of New York.

APPENDIX K
Teacher Survey of the Tech Prep Program (NY)

Secondary/Post Secondary

As a part of an effort to evaluate the New York State's Tech Prep programs we are collecting perceptions about the effectiveness of the programs. As a teacher involved in this program, your input is very important to us. Please read each of the following questions and provide us with your response. To maintain confidentiality of your responses, please place the survey in the accompanying envelope, seal it and return the envelope to ______________________________.

About You

Gender: ____ 1. Male ____ 2. Female
Highest degree: Bachelors ____ Masters ____ Doctorate ____
Advanced certificate in ____.
What courses do you teach? ____
How long have you been a high school teacher? ____
How long have you been a teacher involved in Tech Prep? __________________.

Support for Tech Prep

1. The following are areas in which you may have received support for the implementation of Tech Prep. For each, please circle the number indicating the level of support you have received.

		Outstanding	Sufficient	Insufficient	No Support
1.	Materials for the classroom.	1	2	3	4
2.	Staff development.	1	2	3	4
3.	Planning time.	1	2	3	4
4.	Support from other teachers/faculty.	1	2	3	4
5.	Support from counselors/admissions staff.	1	2	3	4
6.	Support from administrators.	1	2	3	4
7.	Support from the business community.	1	2	3	4

Staff Development

2. The following is a list of staff development topics that address Tech Prep related issues, for each, please indicate if you have attended and/or how you feel about attending them. (Please circle your responses.)

	Have Attended	Will attend	Would like to attend	No need to attend
1. General information about Tech Prep.	1	2	3	4
2 Recruitment, placement, and retention of Students for Tech Prep	1	2	3	4
3. School relationship with business/ industry/labor.	1	2	3	4
4. School to work information.	1	2	3	4
5. Integrating vocational and academic content.	1	2	3	4
6. Application of mathematics, science, and/or communications competencies to the work setting.	1	2	3	4
7. Curriculum development.	1	2	3	4

Your involvement in Tech Prep

3. What has been your involvement in the planning and implementation of Tech Prep during the last three years? (Please check as many as apply.)

___ 1. Served on the planning committee for Tech Prep
___ 2. Helped develop Tech Prep curriculum
___ 3. Helped develop the content of the articulation agreements between high school and community colleges
___ 4. Advised students on Tech Prep recruitment and options
___ 5. Taught Tech Prep (applied, integrated) course
___ 6. Participated in Tech Prep meeting with business or community leaders
___ 7. Attended national or regional conference on Tech Prep
___ 8. Conducted workshops/training on Tech Prep
___ 9. Presented material at regional Tech Prep Conference
___ 10. Presented material at national Tech Prep Conference
___ 11. Visited Tech Prep programs in other areas
___ 12. Other ______________________________

About Tech Prep

4. The following areas reflect attitudes or perceptions about the Tech Prep program. For each, please circle your responses to the following statements using this scale.

1 = Strongly agree 2 = Agree 3 = Slightly agree 4 = Slightly disagree 5 = Disagree 6 = Strongly disagree

	Agreement Scale					
	SA					SD
1. Tech Prep is beneficial for former "general program" students.	1	2	3	4	5	6
2. Tech Prep is beneficial for "regents program" students.	1	2	3	4	5	6
3. Integrating academic and vocational skills is crucial to Tech Prep success.	1	2	3	4	5	6
4. Tech Prep is just another short-lived educational innovation.	1	2	3	4	5	6
5. Tech Prep helps to orient students to current workplace requirements.	1	2	3	4	5	6
6. Tech Prep effectively prepares students for post secondary education and/or future employment.	1	2	3	4	5	6
7. I support the continuation of the Tech Prep Program.	1	2	3	4	5	6
8. I believe that the Tech Prep program helps retain students who may have been at risk.	1	2	3	4	5	6
9. Students have positive attitudes about their experience in the Tech Prep program.	1	2	3	4	5	6
10. Student self esteem is raised through the Tech Prep Program.	1	2	3	4	5	6
11. I encourage students to take higher levels of math and science prior to the implementation of Tech Prep.	1	2	3	4	5	6
12. Students seek more career guidance because of Tech Prep.	1	2	3	4	5	6
13. Tech Prep has not changed vocational education.	1	2	3	4	5	6
14. Tech Prep courses are not appropriate for college-bound students.	1	2	3	4	5	6
15. Students in the Tech Program are more focused on career goals than are non-regents program students.	1	2	3	4	5	6

5. How would you assess the transition of students in Tech Prep program from high school to a post secondary institution? (Please choose one.)

___ 1. Extremely difficult ___ 2. Very difficult ___ 3. Some problems ___ 4. Little problems ___ 5. No problem at all

If they faced any difficulty, what were they? (Please check as many as apply.)

___ 1. Being away from home
___ 2. Doing assignments
___ 3. Finding their way around campus
___ 4. Getting to know faculty
___ 5. Selecting courses
___ 6. Making friends
___ 7. More responsibilities
___ 8. Using computers
___ 9. Adjusting to a new study routine
___ 10. Finding a job
___ 11. Other

6. Please provide us with comments, concerns, and issues you may have about Tech Prep.

Permission to reprint material obtained from B. Flugman, Center for Advanced Study in Education, NY. This survey developed by Dianna L. Newman, University at Albany, State University of New York.

APPENDIX L
High School Guidance Counselor Survey of the Tech Prep Program (NY)

As a part of an effort to evaluate the New York State's Tech Prep programs we are collecting perceptions about the effectiveness of the program. As a guidance counselor involved in this program, your input is very important to us. Please read each of the following questions and provide us with your response. To maintain confidentiality of your responses, please place the survey in the accompanying envelope, seal it and return the envelope to ____________________.

About You

1. Gender: ____ 1. Male ____ 2. Female
2. Highest degree: Bachelors ____ Masters ____ Doctorate ____
   Advanced certificate in ____.
3. What grade level or levels do you advise? ____
4. How many years experience do you have as a Guidance Counselor? ____________________
5. How long have you been involved with Tech Prep as a Guidance Counselor? ____________
6. How many students do you advise? ________________
7. How do you select students to direct towards the Tech Program? ____________________

Staff Development

8. The following is a list of staff development activities and topics that address Tech-Prep related topics. Please indicate your desire for information by circling the response that best represents your need and whether you have attended and/or how you feel about attending. (Please circle your responses.)

	Have attended have enough Information	Have attended would like information	Would like to attend/get information	No need to attend/get information
1. General information about Tech Prep.	1	2	3	4
2. Recruitment, placement, and retention of students for Tech Prep	1	2	3	4
3. School relationship with business/ industry/labor.	1	2	3	4
4. School to work information	1	2	3	4
5. Integrating vocational and academic content	1	2	3	4
6. Application of mathematics, science, and/or communications competencies to the work setting.	1	2	3	4
7. Career development counseling for students	1	2	3	4
8. Job placement assistance for students	1	2	3	4
9. Information on labor market trends	1	2	3	4
10. Methods of promoting Tech Prep to various consumers.	1	2	3	4
11. Promoting cooperation between secondary and post-secondary staff.	1	2	3	4

Your Involvement in Tech Prep

9. What has been your involvement in the planning and implementation of Tech Prep during the last three years? (Please check as many as apply.)

___ 1. Served on the planning committee for Tech Prep.
___ 2. Helped develop Tech Prep curriculum.
___ 3. Helped develop the content of the articulation agreement between high school and community colleges.
___ 4. Advised students on Tech Prep recruitment and options.
___ 5. Visited Tech Prep programs in other areas.
___ 6. Participated in Tech Prep meetings with business or community leaders.
___ 7. Attended national or regional conference on Tech Prep.
___ 8. Conducted workshops/training on Tech Prep.
___ 9. Presented material at regional Tech Prep conference.
___ 10. Presented material at national Tech Prep conference.
___ 11. Other ______________________
____
____

About Tech Prep

10. The following areas reflect attitudes or perceptions about the Tech Prep program. For each, please circle your responses to the following statements using this scale:

1 = Strongly agree 2 = Agree 3 = Slightly agree 4 = Slightly disagree 5 = Disagree 6 = Strongly disagree

	Agreement Scale					
	SA					SD
	1	2	3	4	5	6
1. Tech Prep is beneficial for former "general program" students.	1	2	3	4	5	6
2. Tech Prep is beneficial for "regents program" students.	1	2	3	4	5	6
3. Integrating academic and vocational skills is crucial to Tech Prep success.	1	2	3	4	5	6
4. Tech Prep is just another short-lived educational innovation.	1	2	3	4	5	6
5. Tech Prep helps to orient students to current work place requirements.	1	2	3	4	5	6
6. Tech Prep effectively prepares students for post secondary education and/or future employment.	1	2	3	4	5	6
7. I support the continuation of the Tech Prep Program.	1	2	3	4	5	6
8. I believe that the Tech Prep program helps retain students who may have been at risk.	1	2	3	4	5	6
9. Students have positive attitudes about their experience in the Tech Prep program.	1	2	3	4	5	6
10. Student self esteem is raised through the Tech Prep Program.	1	2	3	4	5	6
11. I encourage students to take higher levels of math and science prior to the implementation of Tech Prep.	1	2	3	4	5	6
12. Students seek more career guidance because of Tech Prep.	1	2	3	4	5	6
13. Tech Prep has not changed vocational education.	1	2	3	4	5	6
14. Tech Prep courses are not appropriate for college-bound students.	1	2	3	4	5	6
15. Students in the Tech Program are more focused on career goals than are non-regents program students.	1	2	3	4	5	6

11. Please provide us with any comments, concerns, and issues you may have about Tech Prep.

Permission to reprint material obtained from B. Flugman, Center for Advanced Study in Education, NY.
This survey developed by Dianna L. Newman, University at Albany, State University of New York

APPENDIX M
Annual Self-Assessment of Student Performance (NY)

Tech-Prep Consortium of Queens

1. Your Name: ______________________________ Grade: _____ Date: ____________

2. Name of your High School: ____

Circle as Follows:
1 = no change
2 – some change
3 = good change

3. Performance Areas

a. ***Thinking*** (can think purposefully and consequentially, is fair-minded)	1	2	3
b. ***Reading*** (can read purposefully and consequentially)	1	2	3
c. ***Writing*** (can write purposefully and consequentially)	1	2	3
d. ***Listening*** (can listen purposefully and consequentially)	1	2	3
e. ***Speaking*** (can speak purposefully and consequentially)	1	2	3
f. ***Problem-solving*** (you are able to identify problems, gather resources, identify activities, and consider consequences)	1	2	3
g. ***Resources*** (identifies, organizes, plans, and allocates resources)	1	2	3
h. ***Interpersonal*** (works with others)	1	2	3
i. ***Information*** (acquires and uses information)	1	2	3
j. ***Systems*** (understands complex interrelations)	1	2	3
k. ***Technology*** (works with a variety of technologies)	1	2	3
l. ***Entrepreneurial*** (takes risks by responsibly meeting situational demands)	1	2	3
m. ***Other*** (specify) ____	1	2	3

4. Do the Tech-Prep courses you take help you to decide your future career path? Yes No

5. What do you see as the difference between the whole, analytical approach to learning and the traditional approach to learning?

____

____

6. Use this space for any comments or suggestions on any aspect of the Tech-Prep program:

____

____

____

7. What is your overall rating of the Tech-Prep program taking everything into account (circle one):

1 (Poor) 2 (Fair) 3 (Average) 4 (Good) 5 (Excellent)

Permission to reprint material obtained from Mary Ann Meyer, Tech Prep Consortium of Queens, NY.

Graduate Exit Survey (OH)

MIAMI VALLEY TECH PREP CONSORTIUM

Congratulations on your recent graduation from Sinclair Community College. As a Tech Prep/Sinclair Associate degree graduate, you are indeed a pioneer. You have worked hard to achieve this milestone, and we are very proud of your accomplishments and dedication.

Please take a few moments to complete this Graduate Exit Survey. It will help us (1) learn more about your experiences and (2) continue to improve the Tech Prep Program for students who will follow you. Thank you for your help. Please return this survey in the enclosed envelope.

NAME: ____________________
ADDRESS: ____________________
CITY/STATE/ZIP: ____________________
PHONE: ____________________ Email: ____________________

PERMANENT ADDRESS (parent or family member)
NAME: ____________________
ADDRESS: ____________________
CITY/STATE/ZIP: ____________________
PHONE: ____________________ Email: ____________________

TECH PREP PROGRAM:

Electronics Engineering Technology	____	Industrial Engineering	____	Allied Health	____
Automotive Technology	____	Computer Support	____	Environmental	____

WORK EXPERIENCE DURING YOUR TECH PREP STUDIES AT SINCLAIR:
Company: ____________________
Position: ____________________

WHAT ARE YOUR PLANS FOLLOWING GRADUATION?:

____ Employment: Company: ____________________
Position: ____________________
Est. annual salary: ____________________
____ Continue at Sinclair: Program: ____________________
____ Continue at 4-year institution: Name of Institution: ____________________
Planned major/program: ____________________
____ Military: (Branch): ____________________
____ Other: ____________________

DID THE TECH PREP PROGRAM FULFILL ITS COMMITMENT TO YOU?
____ Provide a "seamless" education with minimum repetition
____ Provide a smooth transition from high school to Sinclair
____ Provide a smooth transition from Sinclair to employment
____ Related academic areas to the technology field you chose (Applied academics)
____ Provided scholarship assistance as promised

WERE YOU SATISFIED WITH THE TECH PREP PROGRAM? Very Somewhat Not at all

WOULD YOU CHOOSE THE TECH PREP PATHWAY AGAIN? Yes No

WHAT ASPECTS OF TECH PREP WERE MOST BENEFICIAL?
____
____

WHAT ASPECTS OF TECH PREP WAS MOST DIFFICULT?
____
____

HOW COULD THE TECH PREP PROGRAM BE IMPROVED OR EXPANDED?
____
____

Miami Valley Tech Prep Consortium, Sinclair Community College, 444 W. Third Street, Dayton, OH 45402

Permission to reprint material obtained from the Director, Miami Valley Tech Prep Consortium, OH.

APPENDIX N
Parent/Guardian Perception Survey

School District of Hillsborough County
Hillsborough Community College
TECH PREP Consortium

I learned about TECH PREP through:

A. Guidance Counselor/Occupational Specialist
B. Materials sent to my home
C. Another parent
D. Open House
E. Other: (Specify) ____

Directions: Using the following scale, record your response in the left hand column the letter that represents your awareness of TECH PREP.

A = YES B = NO C = I DON'T KNOW

___ Are you aware that your child had signed up for Tech Prep?

___ My child can earn college credit while in high school by completing a TECH PREP program.

___ My child needs to take rigorous mathematics and science classes to be ready for higher education in a TECH PREP program.

___ My child can qualify for the Gold Seal Scholarship by completing a TECH PREP program.

___ With TECH PREP, my child has a variety of higher education options, such as university, community college, adult technical center or adult apprenticeship.

___ TECH PREP can increase my child's earning ability upon graduation from high school.

___ TECH PREP will prepare my child to enter the workplace and higher education.

___ TECH PREP students take the same level of courses as university-bound students.

___ TECH PREP will provide my child with employment skills as well as preparation for a higher education.

___ By completing TECH PREP, my child will have a head start toward an Associate in Science degree.

Thank you for your time. Please return the results in the enclosed stamped, self-addressed envelope.

Permission to reprint material obtained from the Tech Prep Administrative Resource Teacher, Hillsborough Tech Prep Consortium, School District of Hillsborough County, FL.

APPENDIX O
Employer Follow-up Survey

School District of Hillsborough County
Tampa, Florida

Directions: On this survey, you will be asked to evaluate the current work skills of ______________________________ who was a TECH PREP graduate. Read each statement and record your response in the left hand column the letter that best reflects your opinion.

A = Very Good B = Good C = Average D = Poor E = Does Not Apply

This TECH PREP graduate can:

___ 1. Identify, organize, plan, and allocate resources.

___ 2. Work with others.

___ 3. Acquire and use information.

___ 4. Follow policies and procedures effectively.

___ 5. Work within system in which your company operates.

___ 6. Work with a variety of tools or equipment, including computers.

___ 7. Locate, understand, and interpret written information.

___ 8. Communicate thoughts, ideas, information, and messages in writing.

___ 9. Perform basic computations.

___ 10. Interpret and respond to verbal messages or directions.

___ 11. Organize ideas and communicate orally.

___ 12. Generate new ideas, solve problems.

___ 13. Display responsibility, self-esteem, sociability, self-management, and integrity and honesty.

Please provide any additional comments you may have to assist us with evaluating the Tech Prep initiatives. Thank you again for your assistance.

Permission to reprint material obtained from the Tech Prep Administrative Resource Teacher, Hillsborough Tech Prep Consortium, School District of Hillsborough County, FL.

APPENDIX P
Education to Careers Follow - Up Survey

Part One ______________________________

High School Experiences

This set of questions asks about the education and jobs you may have had during high school.

1. How useful was what you learned in high school to what you've done since high school graduation? *(Circle the one best response.)*
   1 Extremely useful
   2 Very useful
   3 Fairly useful
   4 Somewhat useful
   5 Not at all useful

2. While you were enrolled in high school, did you ever hold a job?
   1 no **SKIP TO QUESTION 5 ON PAGE 2**
   2 yes CONTINUE TO QUESTION 3

3. Please estimate the amount of money you made per hour in the last job you held before high school graduation. If you held more than one job, choose the job where you worked the most hours. *(Circle the one best response.)*
   1 Zero.... My job was unpaid
   2 Less than $5.25 per hour
   3 $5.26 to $6.00 per hour
   4 $6.01 to $7.00 per hour
   5 $7.01 to $8.00 per hour
   6 More than $8.00 per hour
   7 I don't know

4. In the last job you held before high school graduation, how many total hours did you work during a typical week? *(Circle the one best response.)*
   1 Less than 5 hours
   2 6-10 hours
   3 11-20 hours
   4 21-30 hours
   5 31-40 hours
   6 More than 40 hours

5. Sometimes high schools arrange special opportunities for students to learn about careers. Which of the following experiences did you participate in while enrolled in high school? *(Circle all that apply.)*

   1 **Job shadowing** – where students spend time following workers in a work site

   2 **Internship** – where students work for an employer to learn about a particular occupation or industry

   3 **Cooperative education (Co-op)** – where students work in a job for which they get school credit

   4 **Tech Prep** – where students participate in academic and vocational classes that have a clear career focus that links high school and two-year college

   5 **Youth apprenticeship** – where students participate in a guided worksite learning experience that is closely associated with their classes in high school and two-year college

   6 **School-sponsored enterprise/business** – where students operate a business or provide services as part of an enterprise sponsored by a school and often located on school property

   7 **Career Academy** – where groups of students and teachers stay together for some of their classes in high school, students take classes in an occupational area and have jobs related to this occupation

   8 **Community service and service learning** – where students do volunteer work in the community that may or may not be related to their career interests

   9. **I did not participate** in any of the above experiences while in high school

6. Since graduating from high school have you ever enrolled in any college or university? *(Circle the one best response.)*

   1 no **SKIP TO QUESTION 17 ON PAGE 5**
   2 yes CONTINUE TO QUESTION 7

Part Two

College Experiences

This set of questions asks about the schools, colleges and universities that you have attended since high school graduation.

7. Since graduating from high school, which of the following types of colleges or universities have you attended? *(Circle all that apply.)*
   1 Two-year community or junior college
   2 Vocational, technical, trade or business school
   3 Four-year college or university
   4 Other - *Specify*________________________________

8. List the name of each college/university that you have attended, the location of the college/university by city and state, and the dates you started and ended enrollment. *(If necessary, list additional colleges/universities on a separate sheet and return it with this survey.)*

College/University Name	City/State	Dates started and ended
EXAMPLE: Lincoln College	*Lincoln, Illinois*	*Sept. 1, 1996 – May 15,1998*

9. How soon after high school graduation did you first enroll in a college/university? *(Circle the one best response.)*
   1 Within six months of high school graduation
   2 Six months to one year after high school graduation
   3 More than one year after high school graduation

10. Of the following categories of college majors, which one most closely matches your chosen program of study? *(Circle the one best response.)*
   1 **Agriculture** (agricultural business, natural resources, animal science, horticulture, farm management)
   2 **Allied health** (medical, dental, occupational or physical therapy, nursing, radiology, veterinary science)
   3 **Business and information technology** (accounting, banking, computer programming, information processing, secretarial, general management, marketing, real estate, travel agent)
   4 **Human services** (teacher, teacher assistant, child care, fashion design, hotel management, chef)
   5 **Humanities, Fine arts and Communications** (art, drama, English, music, foreign languages, journalism, television/radio, commercial art)

6 **Industrial/engineering technology** (construction, machining, electronics, automotive, manufacturing)
7 **Public service** (law and law enforcement, legal assistant, firefighting, social worker, armed services)
8 **Science and mathematics** (biology, chemistry, math, physics, engineering, computer science)
9 **Social and behavioral sciences** (economics, history, psychology, sociology)
10 **Other** – *Specify* ________________________
11 **I am undecided about my college major**

11. Over all the time you have enrolled in college, have you usually been a full time or part time student? *(Circle the one best response.)*

1 Full time (more than 12 credit hours per term/semester)
2 Part time (less than 12 credit hours per term/semester)

12. How much of your college program (as identified in Question 10 above) have you already completed? *(Circle the one best response.)*

1 Less than one-fourth
2 About one-fourth
3 About half
4 About three-fourths
5 More than three-fourths
6 I have completed my entire college program

13. Which of the following college credentials are you seeking right now? *(Circle the one best response.)*

1 A certificate or license requiring less than a two-year degree
2 An associate of applied science degree in an occupational-technical field
3 A transfer associate of science or arts degree designed for continuation at a four-year college
4 A bachelor's degree
5 Other – *Specify* ____________________________
6 I am no longer seeking a college credential

14. Since high school graduation, which college credentials have you already received? *(Circle all that apply.)*
    1 A certificate or license requiring less than a two-year degree
    2 An associate of applied science degree in an occupational-technical field
    3 A transfer associate of science or arts degree designed for continuation at a four-year college
    4 A bachelor's degree
    5 Other – *Specify* ______________________________
    6 I have not completed any college credential since high school graduation

15. If it were up to you, how far would you go in school?
    1 A certificate or license requiring less than a two-year degree
    2 An associate of applied science degree in an occupational-technical field
    3 A transfer associate of science or arts degree designed for continuation at a four-year college
    4 A bachelor's degree
    5 A graduate or advanced degree such as Master's, Doctorate or M.D.
    6 Other – *Specify* ______________________________

16. How confident do you feel that you will reach your ultimate educational goal?
    1 Extremely confident
    2 Very confident
    3 Fairly confident
    4 Somewhat confident
    5 Not at all confident

Part Three

Employment after High School

This set of questions asks about the jobs that you have had since you graduated from high school.

17. Please indicate the number of jobs that you have had since graduating from high school. *(Circle the one best response.)*

    1 1 job
    2 2 jobs
    3 3 jobs
    4 4 jobs
    5 5 jobs or more
    6 I have not had any jobs since high school graduation.
    SKIP TO QUESTION 24 ON PAGE 7

18. What is your employment status at the present time? *(Circle the one best response.)*

    1 Employed full-time (35 or more hours per week)
    2 Employed part-time (less than 35 hours per week)
    3 Unemployed, but actively seeking employment
    4 Unemployed and not seeking employment
    5 Serving in the military full-time
    6 Other – *Specify* ____________________

19. Sometimes people have more than one job. How many jobs do you hold at the present time?

    1 0 jobs **SKIP TO QUESTION 24 ON PAGE 7**
    2 1 job
    3 2 jobs
    4 3 jobs or more

20. Thinking of your primary job as the job that takes up the largest amount of time you spend working each week, how many months have you worked in your primary job? *(Circle the one best response.)*

    1 Less than 6 months
    2 6 to 12 months
    3 13 to 24 months
    4 25 to 36 months
    5 36 months or more

21. Please estimate the amount of money that you make per hour in your primary job. *(Circle the one best response.)*

1 Zero. My primary job is unpaid
2 Less than $5.25 per hour
3 $5.26 to $6.00 per hour
4 $6.01 to $7.00 per hour
5 $7.01 to $8.00 per hour
6 $8.01 to $9.00 per hour
7 $9.01 to $10.00 per hour
8 $10.01 to $11.00 per hour
9 $11.01 to $12.00 per hour
10 $12.01 to $13.00 per hour
11 More than $13.00 per hour
12 I don't know

22. Which of the following best describes the type of job you have as your primary job? *(Circle the one best response.)*

1 **Entry level or unskilled job** – minimal training is required and little orientation is provided by employers. Hiring is usually not very competitive.

2 **Semi-skilled job** – usually requires 6 months to 1 year of specific training, college education or equivalent skills and experiences prior to being hired. Hiring is usually competitive.

3 **Skilled or technical job** – usually requires 1 year to 2 years of specific training or college education prior to being hired. Hiring is usually very competitive.

4 **Professional job** - usually requires 2 to 4 years or more of specific training. College degrees and/or state professional licensure or certification are often required. Hiring is usually extremely competitive.

23. How satisfied are you with your primary job? *(Circle the one best response.)*

1 Extremely satisfied

2 Very satisfied

3 Fairly satisfied

4 Somewhat satisfied

5 Not at all satisfied

24. Which of the following best describes the type of job you would ultimately like to get? *(Circle the one best response.)*

    1 **Entry level or unskilled job** – minimal training is required and little orientation is provided by employers. Hiring is usually not very competitive.

    2 **Semi-skilled job** – usually requires 6 months to 1 year of specific training, college education or equivalent skills and experiences prior to being hired. Hiring is usually competitive.

    3 **Skilled or technical job** – usually requires 1 year to 2 years of specific training or college education prior to being hired. Hiring is usually very competitive.

    4 **Professional job** - usually requires 2 to 4 years or more of specific training. College degrees and/or state professional licensure or certification are often required. Hiring is usually extremely competitive.

25. How confident do you feel that you will reach your ultimate career goal? *(Circle the one best response.)*

    1 Extremely confident

    2 Very confident

    3 Fairly confident

    4 Somewhat confident

    4 Not at all confident

Part Four ________________________________
Just a few more questions about you . . .

26. What is your gender?

    1 Male

    2 Female

27. Are you of Hispanic origin or descent?

    1 no

    2 yes

28. What is your racial/ethnic background? *(Circle the one best response.)*

1 White
2 Black or African American
3 Asian or Pacific Islander
4 American Indian or Alaska Native
5 Other – *Specify*______________________________

29. What is your current marital status? *(Circle the one best response.)*

1 Single
2 Single with children
3 Married
3 Married with children

30. How much education have your parent(s) or guardian(s) completed? *(Circle the one best response for each parent/guardian who you consider to have had the most influence on your life.)*

My father, stepfather or male guardian has completed: *(Circle one response.)*	**My mother, stepmother or female guardian has completed:** *(Circle one response.)*
1 Less than high school graduation	1 Less than high school graduation
2 High school graduation	2 High school graduation
3 Some college but no degree	3 Some college but no degree
4 Two-year Associate degree	4 Two-year Associate degree
5 Four-year Bachelor's degree	5 Four-year Bachelor's degree
6 Graduate degree such as Master's, Doctorate or M.D.	6 Graduate degree such as Master's, Doctorate or M.D.
7 I don't know	7 I don't know

31. What was your approximate total annual family income while you were in high school and living with your parent(s)/ guardian(s)? *(Circle the one best response.)*

   1 $14,999 or less
   2 $15,000–$29,999
   3 $30,000–$44,999
   4 $45,000–$59,999
   5 $60,000–$74,999
   6 $75,000–$89,999
   7 $90,000 or more
   8 I don't know

32. Where do you reside at the present time? *(Circle the one best response.)*

   1 I live with my parent(s)/guardian(s)
   2 I live alone
   3 I live with a spouse or significant other
   4 I live with a friend or roommate
   5 Other – *Specify* ________________________

PLEASE RETURN THIS QUESTIONNAIRE IN THE POSTAGE-PAID ENVELOPE PROVIDED. WE THANK YOU FOR PARTICIPATING IN THIS STUDY.

ID NO:_______________

Permission to reprint material obtained from D. Bragg, Project Director, University of Illinois Urbana/Champaign, IL.

APPENDIX Q
OVAE Career Clusters

Career Clusters	Definitions
1. Agriculture and Natural Resources	Planning and managing agriculture, food, fiber, and natural resources systems. Production of agricultural commodities, including food, fiber, wood products, horticultural crops, and other plant and animal products. Financing, processing, and marketing and distribution of agricultural products; farm production and supply and service industries; horticulture and landscaping services, and the use and conservation of land and water resources; development and maintenance of recreational resources. It also includes mining and extraction operations and related environmental management services.
2. Construction	Designing, planning, managing, building, and maintaining physical structures and the larger built environment including roadways and bridges and industrial, commercial and residential facilities and buildings.
3. Manufacturing	Planning, managing and performing the processing of materials into intermediate or final products and related professional and technical support activities such as production planning and control, maintenance and manufacturing/process engineering.
4. Transportation, Distribution and logistics Services	Planning, management, and movement of people, materials, and goods by road, pipeline, air, rail and water and related professional and technical support services such as transportation infrastructure planning and management, logistics services, mobile equipment and facility maintenance.
5. Information Technology Services	Designing, developing, managing and operating communication and information technology systems, networks, and related hardware and software for telecommunications and computing services.
6. Wholesale/Retail Sales and Services	Planning, managing and performing wholesaling and retailing services and related marketing and distribution support services including merchandise/product management and promotion.
7. Financial Services	Planning, managing and providing banking, investment, financial planning, and insurance services.
8. Hospitality and Tourism	Planning, managing and providing lodging, food, recreation, convention and tourism, and related planning and support services such as travel-related services.
9. Business and Administrative Services	Planning, managing, and providing administrative support, information processing, accounting, and human resource management services and related management support services.

10. Health Services	Planning, managing, and providing diagnostic, therapeutic, and information and environmental services in health care.
11. Human Services	Planning, managing, and providing human services including social and related community services.
12. Arts, Audio Video Tech. and Communications Services	Designing, producing, exhibiting, performing, writing, and publishing multimedia content including visual and performing arts and design, journalism, and entertainment services.
13. Legal and Protective Services	Planning, managing and providing judicial, legal, and protective services including professional and technical support services in the fire protection and criminal justice systems.
14. Scientific Research, Engineering and Technical Services	Planning, managing, and providing scientific research and professional and technical services (e.g., physical science, social science, engineering) including laboratory and testing services, and research and development services.
15. Education and Training Services	Planning, managing and providing education and training services, and related learning support services including assessment and library and information services.
16. Public Administration/ Government Services	Planning, managing and providing government legislative and administrative and regulatory services and related general purpose government services at the federal, state and local levels.

Permission to reprint material obtained from the U.S. Department of Education, OVAE, Washington, DC.

16 Career Clusters and Examples of Occupations Found Within Each Cluster

Agricultural & Natural Resources
Food Scientist
Environmental Engineer
Agriculture Teacher
Animal Scientist
Biochemist
Agricultural Sales Director

Arts, A/V Technology & Communications
Actor-Actress
Video Producer
Journalist
Audio Engineer
Tele-Communications Technologist
Printing/Graphics Technologist

Business and Administration
Human Resource Administrator
Administrative Specialist
Financial Analyst
International Trade Manager
Entrepreneur
Accountant

Architecture and Construction
Contractor
Architect
Electrician
Heavy Equipment Operator
Carpenter
Plumber

Education and Training
Teacher
Principal
School Counselor
College Professor
Corporate Trainer
Coach

Finance
Stock Broker
Banker
Insurance Agent
Financial Planner
Loan Officer
Tax Examiner

Health Science
Pediatrician
Physical Therapist
Radiologic Technologist
Occupational Therapist
Medical Assistant
Hospital Administrator

Hospitality and Tourism
Lodging Manager
Chef
Travel and Tourism Manager
Food Service Manager
Restaurant Manager
Leisure and Entertainment Manager

Human Services
Social Worker
Psychologist
Child Care Worker
Substance Abuse Specialist
Employment Specialist
Psychotherapist

Law and Public Safety
Attorney
Fire Fighter
Police Officer
Judge
Paramedic
Paralegal

Government and Public Administration
Legislator
City Manager
Policy/Budget Analyst
Recreation/Parks Director
State/Federal Agency Director
Urban/Regional Planner

Scientific Research/Engineering
Chemical Engineer
Mathematician
Bio Technologist
Electrical Engineer
Biologist
Oceanographer

Information Technology
Software Engineer
Network Administrator
Web Designer/Developer
Database Manager
Technical Writer
Multimedia Producer

Manufacturing
Machinist
Manufacturing Engineer
Automated Process Technician
Production Engineer/Technician
Welding Technician
Quality Technician

Retail/Wholesale Sales and Service
Sales Associate
Interior Designer
Marketing Director
Buyer
Real Estate Broker
Customer Service Representative

Transportation, Distribution & Logistics
Pilot
Automotive Technician
Logistics Manager
Flight Attendant
Warehouse Manager
Truck Driver

APPENDIX R
Tech Prep Database Programs

Consortium Name: Manatee County Schools in Bradenton, FL
Contact: Deborah Merrill, Career Education Specialist
Address: School Board of Manatee County, PO Box 9069, Bradenton, FL 34206-9069
Phone: 941-741-7298
Email: Merrilld@fc.manatee.k12.fl.us

Description of Database Program: The Florida Department of Education maintains an Automated Student Information System that allows local school districts to enter data for individual students via computer. The information can be retrieved by the state for analysis and dissemination of statistics related to student enrollment and educational programs. When the Tech Prep education program began, a data element was put into place to identify Tech Prep participants. In 1998, the Student Information System was modified to include data elements that would facilitate collecting information to determine the level of activity of certain School to Work activities. The state added data elements to identify participants in activities such as mentoring/coaching, school-based enterprise, academy enrollment, and service learning.

The Manatee County school district added five additional elements to those the state initiated. The additional elements enabled district personnel to collect and analyze data related to (1) career assessment, (2) career-related classroom activities, (3) workplace tours, (4) job shadowing, and (5) the impact of curriculum integration. At the close of each school year, a spreadsheet is produced detailing the number of participants in each of the areas of activity. The information is analyzed and reported demographically for each high school in the district. The process of entering data is time consuming, but the information gained for evaluation purposes is invaluable.

Permission to reprint material obtained from the Career Education Specialist, Manatee County Schools, Fl.

Consortium Name: Tech Prep Consortium Region 1-B
Contact: Vickie Wagner, Tech Prep Specialist
Address: Purdue University North Central, 1401 South US Highway 421,
Westville, IN 46391-9528
Telephone: 219-785-5362
Email: vickiew@purduenc.edu

Description of Database Program: The Indiana Department of Education developed a statewide survey to address Perkins III accountability. (Federal dollars supported the development of this survey). Surveys were sent to every high school in the state, creating the baseline for FY00. In order to use the information, a database was created in Excel linked to a word document. These programs were utilized instead of Access as all regions had access to these particular software programs. Regional Tech Prep specialists, administrators, educators, and the various state departments can then utilize the data for analysis and dissemination of information. Each high school will be able to see growth through comparisons between baseline FY00 and subsequent years, FY01, FY02, FY03, and FY04. Additionally, schools can compare their individual numbers to their region and to the state aggregate data.

Categories within the database system include "All Seniors" and a subgroup, "All Senior Technical Preparation/Vocational Completers." Specific data analysis can be obtained for number of (1) career plans on file; (2) students enrolled in classes that are articulated with a postsecondary partner; (3) students passing the ISTEP+ Graduation Qualifying Exam; (4) students completing 4 years of English that cover core 40 competencies; (5) students completing 3 years of mathematics, at least 2 of which cover core 40 competencies; (6) students completing 3 years of science, at least 2 of which cover core 40 competencies; (7) students completing or expecting to complete a job-shadowing experience during high school; (8) students completing or expecting to complete work-based learning during high school; and (9) students expecting to earn a Certificate of Technical Achievement during high school.

Permission to reprint material obtained from Vickie Wagner and Patti Shutt, Tech Prep specialist, Purdue University North Central, IN.

Consortium Name: Prince George's County, Maryland
Contact: Dr. Rose Mary Swartwood, Prince George's Community College
Address: 301 Largo Rd, Largo, MD 20774
Phone: 301-322-0699
Email: swartwrm@pg.cc.md.us

Description of Database Program: The Prince George's County Public Schools and Prince George's Community each have their own student information databases for maintaining Tech Prep student records. However, in order to follow up and track Tech Prep students at the high school and continued on to the community college a mechanism was needed to facilitate this follow through and provide required statistical information for state and federal reporting. An application was designed to be completed by each student (and signed by their parent or guardian) enrolled in designated "gateway" courses for our nine designated Tech Prep education programs. These applications are then scanned into a Microsoft Access database program. Designated individuals at the public schools and community college maintain this information. These collaborative effort enables teachers and counselors necessary information including: (a) student guidance as they graduate from high school, (b) statistical information need for both high school and community college enrollment reports, and (c) projections as well as recruitment information for the community college.

Permission to reprint material obtained from Dr. Rose Mary Swartwood, Prince George's Community College, Largo, MD.

Consortium Name: Mid Rivers Tech Prep
Contact: Dan Busekrus, Director
Address: Pike/Lincoln Technical Center, Box 38, Vo-Tech Road, Eolia, MO 63344
Phone: 941-741-7298
Email: busekrus@pltc.k12.mo.us

Description of Database Program: Microsoft Access is used to maintain a database program of educators, administrators, and business partners. Columns, as needed, are inserted to record data as to conferences attended, participants at meetings, and other consortium activities. This database is then used to assist with mail merges. The database system, although simple, has been Mid Rivers Tech Prep consortium's best way of collecting data, and keeping it simple has made it extremely user friendly.

Permission to reprint material obtained from Dan Busekrus, Mid Rivers Tech Prep Consortium, MO.

Consortium Name: Tech Prep Consortium of Queens, NY
Contact: Mary Anne Meyer, Acting Program Director
Address: Queens Community College, 222-05 56th Ave., Room H-456, Bayside, NY 11364.
Or via 20 Illinois Ave., Long Beach, NY 11561
Phone: 718-631-6315 or 516-897-1819
Email: MMeyer5625@aol.com

Description of Database Program: Software was designed and developed by the consortium to reflect the data elements that need to be reported to the state. Reports are generated that detail population, performance, completion, and articulation of Tech-Prep students. Training has also been done in regard to design of forms and strategies for collection of data throughout the state.

Permission to reprint material obtained from Mary Ann Meyer, Tech Prep Consortium of Queens, NY.

Consortium Name: Tulsa Tech Prep, OK
Contact: Dr. Tana Garrett, Vocational Director
Address: Charles Page High School, PO Box 970, Sand Springs, OK 74063
Phone: 918-241-1920
Email: garrettt@sandsprings.k12.ok.us

Description of Database Program: Sand Springs, Oklahoma, uses a commercial database. Current data includes transcript, GPA, current enrollment, ethnicity, age, date of birth, parent information, address, phone, attendance, and discipline records. Access to information can be carefully controlled at each computer station on the network utilizing both numbers and passwords. Access to any particular database can be restricted to any user. The use of "query" statements allows the user to tailor the retrieval of information to specific needs. The network can encompass multiple sites allowing systemwide access to information. Access the Web site at http://k12.ncs.com/.

Permission to reprint material obtained from Vocational Director, Charles Page High School, OR.

Consortium Name: Mt Hood Regional Educational Consortium, OR
Contact: Dr. Dan Walleri, Director of Research and Planning
Address: Mt Hood Community College, 26000 SE Stark St, Gresham, OR 97030
Phone: 503-491-6924
Email: wallerid@mhcc.cc.or.us

Description of Database Program: Tech Prep student data are downloaded from the college's central student records system and then loaded into Access at the desktop level. Access is used for database management and summary analysis. SPSS for Windows is used for statistical tests. The final report is prepared using Microsoft Word.

Permission to reprint material obtained from Director of Research and Planning, Mt. Hood Community College, OR.

Consortium Name: Western Wisconsin Business-School Consortium, WI.
Contact Name: Elizabeth J. Brendel, Tech Prep Curriculum Specialist
Address: Western Wisconsin Technical College, 304 Sixth Street N, PO Box C-0908,
La Crosse, WI 54602-0908
Phone: 608-785-9588
Email: brendele@western.tec.wi.us

Description of Database Program: The Western Wisconsin Technical College in La Crosse, Wisconsin, uses Microsoft Word Access to collect Tech Prep data. The college puts this database on the Web as a communication tool to secondary instructors, counselors, and others regarding agreements, etc. The institution transfers information about students to its enrollment specialist and counselors internally. The college uses PeopleSoft to pull reports from its Client Reporting System of students after they leave high school and matriculate in the postsecondary system. Western Wisconsin Technical College is currently transitioning into PeopleSoft from an internal system called Super. The Tech Prep specialists call on their Client Reporting department to request a report. Final reports are created using Microsoft Word.

Permission to reprint material obtained from Tech Prep Curriculum Specialist, Western Wisconsin Technical College, WI.

APPENDIX S

TECH PREP PROGRAM

QUALITY INDICATORS

Developed by the National Association of Tech Prep Leadership (NATPL)
February 1999

A Tech Prep Program is comprised of five integral components: (1) Accountability/Sustainability, (2) Student Opportunities, (3) Curriculum, (4) Articulation, and (5) Professional Development. The Perkins Core Indicators include: Skills Proficiencies, Secondary/Postsecondary (S/PS) Degrees/Credentials, Postsecondary (PS) Education/Employment, and Non-Traditional (NT) Training/Employment.

Tech Prep Program Components	Self Assessment +5 = Met +3 = In Progress -3 = Not Met 0 = NA Circle One	QUALITY INDICATORS	1998 Perkins Act Title II Sections 201-205	1998 Perkins Act Core Indicator
(1) ACCOUNTABILITY/ SUSTAINABILITY	+5 +3 -3 0	1.1 The Tech Prep Program has identified benchmarks/objectives, outcomes, and definitions. These elements are developed, advanced, and evaluated by a functioning governance committee/council.	205(d)2 [Title I – 113(b)]	• Skills Proficiencies • S/PS Degrees/ Credentials • PS Education/ Employment • NT Training/ Employment
	+5 +3 -3 0	1.2 The Tech Prep Program is evaluated in relation to those objectives and outcomes on an annual basis. Evaluation of the Program includes the collection of qualitative and quantitative information and data (e.g., completion rates, placement information, articulation data, student and business satisfaction, etc.)	[Title I – 113(b)]	
	+5 +3 -3 0	1.3 Program assessment is designed to measure and summarize student outcomes resulting in Tech Prep articulated programs of study.	[Title I – 113(b)]	
	+5 +3 -3 0	1.4 Mechanisms are in place to ensure the institutional sustainability of the Program.	205 (c)	
(2) STUDENT OPPORTUNITIES	+5 +3 -3 0	2.1 All students are afforded the opportunity to participate in a Tech Prep program of study.	204(c)(5) 204(c)(6) 204(c)(7)	• Skills Proficiencies • S/PS Degrees/ Credentials • PS Education/ Employment • NT Training/ Employment
	+5 +3 -3 0	2.2 Tech Prep students are enrolled in a seamless program of study that begins, preferably by grade 9 but at least by grade 11 and continues through at least 2 years of postsecondary education. The seamless program incorporates broad career clusters and rigorous academics.	202(a)(3)(A) 204(c)(2)	

Tech Prep Program Components	Self Assessment +5 = Met +3 = In Progress -3 = Not Met 0 = NA Circle One		QUALITY INDICATORS	1998 Perkins Act Title II Sections 201-205	1998 Perkins Act Core Indicator
(2) STUDENT OPPORTUNITIES (cont.)	+5 +3 -3 0	2.3	Tech Prep students have a program of study (i.e. occupational specialty/interest area) which includes sustained academic and career counseling and encourages them to investigate non-traditional training and employment opportunities and workforce shortages.	204(c)(2) 204(c)(3)(A) 204(c)(3)(B) 204(c)(3)(C) 204(c)(7) 205(d)(4)	• Skills Proficiencies • S/PS Degrees/ credentials • NT Training/ Employment
	+5 +3 -3 0	2.4	Tech Prep students have the opportunity to be placed in a variety of paid and/or unpaid work-based learning experiences inside and/or outside the classroom or laboratory that match their program of study (i.e. student recruitment and placement services).	202(a)(3)(B) 204(c)(3)(C)	• Skills Proficiencies • PS Education/ Employment • NT Training/ Employment
	+5 +3 -3 0	2.5	Tech Prep students possess the vocational, technical, and academic skills required to enter higher education remediation free and/or enter the employment market.	202(a)(3)(C) 202(a)(3)(D) 202(a)(3)(E) 202(a)(3)(F) 204(c)(2) 205(d)(1) 205(d)(5)	• Skills Proficiencies • S/PS Degrees/ Credentials • PS Education/ Employment
(3) CURRICULUM	+5 +3 -3 0	3.1	Curriculum contributing to the Tech Prep Program is seamless from secondary through postsecondary and is developed and evaluated by educators, business, industry and labor, counselors, students and parents.	202(a)(3)(A) 205(d)(2)	• Skills Proficiencies • S/PS Degrees/ Credentials • PS Education/ Employment
	+5 +3 -3 0	3.2	Local, state, and national academic and technical/occupational standards define the curriculum.	204(c)(3)(A)	• Skills Proficiencies • S/PS Degrees/ Credentials

Tech Prep Program Components	Self Assessment +5 = Met +3 = In Progress -3 = Not Met 0 = NA Circle One		QUALITY INDICATORS	1998 Perkins Act Title II Sections 201-205	1998 Perkins Act Core Indicator
(3) CURRICULUM (cont.)	+5 +3 -3 0	3.3	All aspects of an industry are embedded into the curriculum.	204(c)(3)(A)	• Skills Proficiencies • S/PS Degrees/ Credentials • PS/Education/ Employment
	+5 +3 -3 0	3.4	The Curriculum incorporates career clusters and programs of study that embrace rigorous academic and technical competencies.	202(a)(3)(B) 205(d)(5)	• Skills Proficiencies • NT Training/ Employment
	+5 +3 -3 0	3.5	The curriculum integrates contextual and performance-based learning and assessment.	202(a)(3)(D) 204(c)(4)(D)	• Skills Proficiencies • PS Education/ Employment
	+5 +3 -3 0	3.6	Instructional technology is a viable component of the Tech Prep program content and instruction.	204(c)(3)(D) 204(d)(1) 204(d)(2) 204(d)(3)	• Skills Proficiencies • S/PS Degrees/ Credentials • PS Education/ Employment • NT Training/ Employment
	+5 +3 -3 0	3.7	Multiple assessment of student performance is used including performance-based, project-based, and portfolio-based assessment		• Skills Proficiencies • S/PS Degrees/ Credentials

Tech Prep Program Components	Self Assessment +5 = Met +3 = In Progress -3 = Not Met 0 = NA Circle One		QUALITY INDICATORS	1998 Perkins Act Title II Sections 201-205	1998 Perkins Act Core Indicator
(4) ARTICULATION	+5 +3 -3 0	4.1	The Tech Prep Program shows collaborative involvement between secondary, postsecondary and business representatives.	202(a)(2)(A) 202(a)(2)(B) 202(a)(3)(A) 204(c)(3)(B)	• Skills Proficiencies • S/PS Degrees/ Credentials • PS Education/ Employment
	+5 +3 -3 0	4.2	Written articulation agreements are seamless between secondary and postsecondary institutions.	202(a)(1) 204(c)(1) 204(d)(3)	• Skills Proficiencies • S/PS Degrees/ Credentials
	+5 +3 -3 0	4.3	Articulation is inclusive of academic and technical courses.	202(a)(3)(B) 202(a)(3)(C) 202(a)(3)(D)	• Skills Proficiencies • S/PS Degrees/ Credentials
	+5 +3 -3 0	4.4	Articulated competencies/skills are enhanced, not necessarily time-shortened.		• Skills Proficiencies • S/PS Degrees/ Credentials
(5) PROFESSIONAL DEVELOPMENT	+5 +3 -3 0	5.1	Technical and academic instructor/faculty professional development plans are aligned with the goals, objectives, and outcomes of the Tech Prep Program.	204(c)(4)(A)	• Skills Proficiencies • S/PS Degrees/ Credentials • PS Education/ Employment • Non-Traditional Training/ Employment

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Tech Prep Program Components	Self Assessment +5 = Met +3 = In Progress -3 = Not Met 0 = NA Circle One		QUALITY INDICATORS	1998 Perkins Act Title II Sections 201-205	1998 Perkins Act Core Indicator
(5) **PROFESSIONAL DEVELOPMENT** (cont.)	+5 +3 -3 0	5.2	Technical and academic instructors/faculty involved with Tech Prep work in teams with supporting planning time. Counselors and administrators are also involved with Tech Prep teams.	204(c)(4)(B)	• Skills Proficiencies • S/PS Degrees/ Credentials • PS Education/ Employment • Non-Traditional Training/ Employment
	+5 +3 -3 0	5.3	Secondary, postsecondary faculty and administrator training in instructional delivery and assessment is provided to ensure that students meet high academic and employability standards (e.g., contextual and performance-based learning and assessment).	204(c)(4)(C) 204(c)(4)(D)	
	+5 +3 -3 0	5.4	Training for counselors designed to improve and strengthen career guidance skills and to help them stay current with employment trends, needs, and expectations.	204(c)(5) 204(c)(7)	
	+5 +3 -3 0	5.5	Secondary and postsecondary faculty training in the use and application of technology.	204(c)(4)(E)	
	+5 +3 -3 0	5.6	Training in the infusion of gender and multicultural concepts takes place on two levels: 1) the content within a course of study and the management of student learning within the classroom and 2) the entire school building.	204(c)(6) 205(d)(3)	
	+5 +3 -3 0	5.7	Technical and academic instructors/faculty internships with business, industry and education are established and maintained. Internships include guidance personnel and administration. Business representatives have the opportunity to intern within the classroom/lab portion of the Tech Prep Program.	204(c)(4)(C) 204(c)(5)(E)	
	+5 +3 -3 0	5.8	Training in the use of multiple assessment of student performance including performance-based, project-based, and portfolio based assessment.		